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NOV 30 1927

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THE MEDICAL JOURNAL OF AUSTRALIA

VOL. II.—14TH YEAR. SYDNEY: SATURDAY, NOVEMBER 5, 1927. No. 19.

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SOME NEW AND NON-OFFICIAL REMEDIES OF GENERAL MEDICAL INTEREST.[1]

By S. O. COWEN, M.D. (Melbourne),
Physician to Out-patients, Melbourne Hospital; Lecturer in Therapeutics, University of Melbourne.

IF it be true, as Plato, the master thinker, has said, that "an unexamined life is not worth living," then it must follow, since the greater includes the less, that an unexamined practice is not worth practising. It is for this reason, and because we are in peril of being engulphed in the ever-rising flood of new remedies, that I have ventured to set down certain considerations, in the hope that they may prove of service to those who have undertaken to navigate the ship of health. There are who make light of general principles, knowledge of detail their sole demand, but this point of view sees one side only of the shield, be it silver or gold as it shall please them; for whilst doubtless general principles without details make but a foolish business it is no less true that details without guiding principles yield but a busy foolishness.

"*Principia Therapeutica*,"
Harrington Sainsbury.(1)

It might be expected that a paper dealing with the uses of drugs should in these days of scientific medicine be prefaced by an apology. But indeed, the fashionable pose of therapeutic nihilism has little more to commend it than the older blind belief in the efficacy of drugs. In the present state of popular education we seldom find ourselves able to undertake the management of the simplest medical case without invoking the aid of the familiar "bottle of medicine." We cannot reasonably affect to scorn those means which "sometimes cure, often relieve and always console," and we must by critical scrutiny of their effects assure ourselves that the drugs we employ, fulfil the proverbial requirements of acting quickly, safely and pleasantly. This paper, however, has a more specific object than the defence of medicinal treatment in general. It originated in the almost despairing request of a thoughtful friend in general practice for guidance as to the real value and practical usefulness of the proprietary preparations so glibly extolled by the flood of pamphlets and blotters that daily rains upon us. By way of answer I shall attempt to set out certain general principles concerning the evaluation of drugs in general, illustrating them by reference to some new remedies of which I have made personal trial in general medical practice.

The value of any drug, new or old, is assessed in two ways: by reference to its chemical and pharmacological characters and by the clinical results it achieves.

Our first inquiry must be to the science of pharmacology which, though still in its infancy, has already accumulated a considerable store of facts relating to the properties of drugs. By discovering the exact mode of action of drugs formerly used empirically pharmacology has clarified and extended the indications for their use; it has given us quantitative instead of qualitative results; by investigating the relationship of chemical structure to physiological activity it has illuminated the problem of the dissimilar effect of drugs almost isomeric like atropine and hyoscine and has synthesized "Salvarsan" and other new compounds and, finally, it has given us biological standardization. But against these achievements must be set some serious limitations and shortcomings. The results of pharmacological investigation are based mainly on the immediate effects of drugs administered to healthy animals in toxic doses and cannot be translated directly in terms of their actions on the diseased human subject in therapeutic doses. Moreover, pharmacology cannot foretell or even account for modification of the effects of drugs by the peculiarities of mental and physical constitution or the occurrence of idiosyncrasy in the individual patient.

Though its debt to the science of pharmacology is already great and is rapidly increasing, therapeutics remains an art and we must look to clinical results for the ultimate proof of the value of any remedy. In this matter, however, "experience is fallacious and judgement difficult" and the fallacy of the *post hoc propter hoc* argument difficult to avoid. Controlled experimental conditions are impossible at the bedside and our knowledge of the natural history of disease is as yet so incomplete that scientific judgement concerning the respective value of drug treatment and any or all of the other factors contributing to the cure of disease is difficult of attainment. How difficult is attested on the one hand by the fickleness of fads and fashions in medicine and the unfounded optimism with which most new remedies are hailed, and on the other by the unmerited disuse into which a valuable drug sometimes falls. Both extremes might be avoided by the cultivation in all of us of a more scientific attitude and a more honest attempt to assign only its due share of credit to any one cause contributing to a successful issue.

How do these considerations apply in the evaluation of the newer drugs? First, we must examine any new remedy in the light of its pharmacological affinities and by this means attempt to gauge its possibilities, both for good and harm. Unless this scrutiny is satisfactory, the drug cannot be subjected to clinical trial and the pharmacological standards by which we judge it, must be real ones and not the spurious half-truths often proffered by the "auriferous leaflets" of the pharmaceutical houses. We must do our own thinking before subjecting our patients to new drugs, since in proportion to their newness the practical proof of their efficacy and even their safety is wanting. Here again we must beware the specious "clinical reports" of the advertising puffs, remembering that "nothing is more difficult to establish than a fact in therapeutics."

Only by the application of these general principles can newly introduced remedies be appraised. The method is here illustrated in the consideration of certain groups of drugs of general medical interest; some of them have been selected for their real value and some to indicate that the claims made on behalf of the preparations cannot be substantiated.

[1] Read at a meeting of the Victorian Branch of the British Medical Association on September 7, 1927.

Hypnotics.

The very numbers of the newer hypnotic compounds indicate that the pharmacopœial drugs of this class are not entirely satisfactory. Clark[2] states the properties of an ideal hypnotic as follows:

> The properties of an ideal hypnotic may be summarised as follows:
>
> 1. The drug must produce a reliable hypnotic effect.
> 2. The hypnotic action must be produced without a preliminary stage of excitement.
> 3. The drug must not irritate the stomach.
> 4. The drug must be absorbed readily, so that the hypnotic action is produced at a regular interval after the administration of the drug.
> 5. The drug must either be broken down in the body or else be excreted rapidly, so that it produces no after-effects next day and does not produce cumulative poisoning when taken daily.
> 6. The drug must not produce dangerous side actions, such as cardiac depression.
> 7. There must be a sufficient margin of safety between the dose required to produce hypnosis and that which produces medullary depression.
> 8. The drug must not produce tolerance nor a drug habit when given regularly over long periods.

Barbitone, deservedly the most popular hypnotic, fulfils most of these requirements, but it has two important shortcomings which render it unsuitable for prolonged administration, its liability to produce cumulative poisoning and its habit-forming propensities. In the attempt to obviate these defects, homologues of barbitone are constantly being introduced; their close relationship to the parent drug is shown by a comparison of their descriptive chemical names, as shown in Table I.

It may be said at once that none of the newer compounds fulfils the ideal requirements. It must, however, be conceded that they are all more completely broken down and more rapidly excreted than barbitone and are consequently less liable to cumulative action. For this reason I consider barbitone-sodium the best of the group, though not a British Pharmacopœia drug, it is officially recognized in the United States Pharmacopœia and is therefore cheaper than the proprietary compounds. A comparison of the effective doses shows that the newer derivatives are more actively hypnotic than the parent substance, but there is no evidence in favour of the manufacturers' claims that the margin of safety between their therapeutic and toxic doses is any greater than that of barbitone itself. They all fall short of the ideal in that the habit-forming propensities of barbitone are inherent in all its homologues.

In a recent controversy in the columns of *The British Medical Journal*[3] Sir Maurice Craig has put forward the view that the risk of forming a habit of insomnia is greater than the risk of producing addiction to barbitone compounds and while I would not venture to dispute his conclusions as regards psychiatric practice, I consider that they cannot be indiscriminately applied to general medical work. The risk of habituation to these drugs, especially in women (who are also more prone to toxic effects) is, I submit, a real one. Though "Dial" is a useful drug, I avoid prescribing it whenever possible because of the manufacturers' unwarranted claim that it "does not form habit." The discreet silence on this point maintained by the makers of the other proprietaries is my reason for emphasizing its importance.

A second and closely related group of hypnotics comprises the combinations of urea derivatives with halogens. They are less potent and also less dangerous than the drugs of the preceding class. "Bromural" (Knoll), when given in doses of 0·3 to 1·0 gramme (five to fifteen grains), is a satisfactory mild hypnotic, though I have not found it to fulfil its maker's naïve claim that it is "absolutely harmless, yet affording the desired ease and sleep, thus enabling you to regain the will power to work, so essential to success in life." "Adalin" (Bayer) is similar in chemical composition, dosage and effects, but I am sceptical about the statement that it "has no cumulative action; nor has there been any report of habituation to the drug." The discreet wording of the second clause is worth noting.

Amongst the widely advertised hypnotics are some halogen derivatives. "Somnos" (Mulford) is said to be a new compound, but "its physical effects are indistinguishable from those of hydrated chloral" and there is "nothing in the animal experiments or in the chemical composition which would suggest that it would possess therapeutic advantages over an elixir of hydrated chloral of corresponding strength."[4] "Chloretone" (Parke Davis) belongs to this class; though its hypnotic effects are weak, it is a valuable sedative in doses of 0·6 to 1·0 gramme (ten to fifteen grains) and I prefer it to morphine as a preliminary to general anæsthesia.

Phenobarbital ("Luminal").

Phenobarbital (United States Pharmacopœia), which is better known under the trade names "Luminal" and "Gardenal," merits separate consideration by reason of its importance and because it fulfils therapeutic indications a little different

TABLE I.

Trade Name.	Chemical Name.	Dose.	
		Grammes.	Grains.
Barbitone, B.P.	Di-ethyl-barbituric acid	0·3 to 1·0	5 to 15
"Medinal" (Schering) (Barbital Sodium, U.S.P.)	Mono-Sodium salt of di-ethyl-barbituric acid	0·3 to 1·0	5 to 15
"Dial" (Ciba)	Di-allyl-barbituric acid	0·09 to 0·18	1·5 to 3·0
"Amytal" (Lilly)	Amyl-ethyl-barbituric acid	0·09 to 0·27	1·5 to 4·5
Phenobarbital, U.S.P. (Syn.: "Luminal," "Gardenal")	Phenyl-ethyl-barbituric acid	0·03 to 0·3	0·5 to 5·0
"Phanodorm" (Merck)	Hexenyl-ethyl-barbituric acid	0·18 to 0·36	3 to 6

from those of the other barbitone derivatives. Though its general effect on the central nervous system resembles that of the other members of the group, phenobarbital differs in that it acts more strongly on the motor centres. By virtue of this property it has largely supplanted bromides as a means of controlling the major fits of idiopathic epilepsy. Small doses usually suffice for this purpose; my own practice is to commence with 0·03 to 0·06 gramme (a half to one grain) given at night or in the morning according as the fits are chiefly nocturnal or diurnal; should this amount not be effective I increase the daily ration to 0·12 gramme (two grains) and later, if necessary, to 0·18 gramme (three grains) given in one or two doses. I do not go beyond this amount, because phenobarbital is the most toxic of the barbitone homologues; even in small doses it may produce ulceration of the mouth, skin rashes and delirium. Though these toxic effects occur but seldom, the first signs of their appearance should be constantly watched for and combated by a reduction in dosage. Authorities generally agree that the daily dose should not exceed 0·27 gramme (four and a half grains) but for the treatment of ambulatory patients, I consider 0·18 gramme (three grains) the maximal safe amount. Should the fits continue when this dose has been reached, I resort to the supplementary use of bromides. Phenobarbital has one important undesirable property (its sudden withdrawal often leads to a temporary increase in the number and severity of the fits), but this can be avoided by gradual reduction in the amount and frequency of the dose, before finally stopping its administration. It has little effect on *petit mal*. Phenobarbital is insoluble and is best administered in tablet form. Its sodium compound is soluble, but the solution deteriorates rapidly; it should, therefore, not be prescribed as a mixture, but it is available for hypodermic administration in *status epilepticus* which is said to have been successfully controlled by its use. Phenobarbital is a useful sedative for prolonged use in migraine, neurasthenia and in the nervous symptoms associated with hypertension and with the menopause. In doses of 0·3 to 0·6 gramme (five to ten grains) it is a powerful soporific, but owing to its liability to produce toxic effects it cannot be regarded as safe and one of the other barbitone derivatives should always be preferred as a hypnotic. It is as an anticonvulsant that phenobarbital has earned its reputation and no one who has seen the change wrought by it in the bromide-sodden epileptics of the out-patient department will dispute its claim to a position amongst our most valuable drugs.

Analgesics.

The introduction of a number of new analgesics is obviously an attempt to fill the gap between the efficient but potentially harmful opium derivatives and the harmless but relatively inefficient phenol compounds, acetylsalicylic acid and phenacetin. The chemical nature of some representative proprietary drugs of this class is shown in tabular form in Table II.

All three are combinations of a barbitone homologue with amidopyrine which is an official United States Pharmacopœia drug and is better known in this country under the trade name of "Pyramidon." Amidopyrine which is a derivative of phenazone, is in my opinion the most efficient of the aromatic analgesics; it is usually prescribed in doses of 0·3 gramme (five grains). "Veramon" is said to lose the hypnotic effect of barbitone in the process of chemical combination. In 0·36 gramme (six grain) doses it relieves satisfactorily the pains of peripheral neuritis and lessens those of tabes without making the patient noticeably sleepy. "Allonal" is a potent hypnotic, but has only feeble analgesic properties. The manufacturer's pamphlet does not state the dose or even the exact composition of the drug and makes the unwarranted claim that "it is free from habit-forming tendencies." The same claim is made for "Cibalgin" which closely resembles "Allonal" in its chemistry and pharmacology.

None of the newer analgesics meets the need alluded to above. "Veramon" may be of use occasionally, but "Allonal" and "Cibalgin" fulfil no purpose that cannot be better and much more cheaply met by an extempore prescription containing accurate and properly adjusted doses of barbitone-sodium and amidopyrine.

Narcotics.

"Didial" is the only new drug falling under the heading of narcotics that I have tried. It is put up in tablets for oral administration each containing "dial" 0·09 gramme (one and a half grains) and ethyl-morphine-diallyl-barbiturate 0·02 gramme (one-third of a grain). It fulfils no indication that is not satisfactorily met by the familiar morphine and aspirin mixture.

Digitalis Preparations.

The digitalis preparations on the market are set out in Table III.

TABLE II.

Trade Name.	Chemical Name.	Dose.	
		Grammes.	Grains.
"Veramon" (Schering)	Di-ethyl-barbituric acid (one molecule) + amidopyrine (two molecules) in chemical combination	0·36—0·72	6—12
"Allonal" (Roche)	Allyl-isopropyl-barbituric acid + amidopyrine in simple mixture	Not stated	Not stated
"Cibalgin" (Ciba) (formerly "Dialacetin")	Di-allyl-barbituric acid (dial) + amidopyrine "in combination"	0·24—0·48 given orally or hypodermically	4—8 given orally or hypodermically

The numerous new and non-official derivatives of digitalis owe their existence in the first place to the unreliability of the British Pharmacopœia preparations and in the second to the inherent difficulties in the clinical administration of the drug itself irrespective of the preparation employed. The variations in potency of the official tincture which sometimes accounts for the ineffectiveness of digitalis in cardiac failure, simply reflect the seasonal and other variations in the leaf employed and can be rectified by biological standardization of the galenical preparations. Until the British Pharmacopœia follows the lead of the United States Pharmacopœia in demanding a standard of this kind, we are at the mercy of the manufacturers. Fortunately the better firms have long since voluntarily set up their own methods of standardization and have given us products like "Digifortis" (Parke, Davis & Co.) which is deservedly popular by reason of its constancy of strength.

But the clinical failures of digitalis are more often due to faulty administration than to faulty preparations. The toxic effects and the pharmacological action of the active principles of the drug are so intimately related that they cannot be separated. Nausea, vomiting and disturbances of cardiac rhythm can seldom be entirely avoided if the full therapeutic effect of digitalis is secured and they can be minimized only by a thorough knowledge of the principles which should guide its administration and by constant watchfulness and scrupulous care. In short the successful use of digitalis demands clear thinking, frequent observation of its effects and a good deal of hard work. The lure of a fool-proof preparation is the bait with which some manufacturers endeavour to catch lazy and gullible practitioners. For example, the makers of "Digifoline" state that "it is free from the inert and deleterious extractive substances which are met with in the tincture and infusion and which cause the well known phenomena of gastric intolerance." That such a claim should be made is a reflection on the common sense of the profession.

Though most authorities consider that the therapeutic effect of the galenical preparations which contain all the glucosides, is better than that of any one of the active principles by itself, I have found Nativelle's "Digitaline" a thoroughly satisfactory drug. It is of high and uniform potency and convenient for the patient; its strength is clinically greater than the pharmaceutically equivalent doses stated above and I generally work on the basis that 0·11 milligramme (one-six hundredth of a grain) corresponds in effect to 0·45 to 0·6 mil (seven and a half to ten minims) of the tincture. Some of the other proprietary preparations are recommended to be given in absurdly small doses and this is doubtless the reason for their boasted freedom from unpleasant side effects. It is worth noting that 0·65 milligramme (one-hundredth of a grain) of "Amorphous Digitalin" (Burroughs, Wellcome & Co.) is equivalent only to about 0·6 mil (ten minims) of the tincture[5] and yet many practitioners pin their faith on this absurdly small dose in grave emergencies.

Despite the advertisers' claims, no thoroughly satisfactory digitalis preparation, proprietary or otherwise, is yet available for hypodermic administration. All of them cause considerable irritation when injected subcutaneously. In any case, prompt rather than instantaneous effect is generally required and if owing to gastritis or some such associated lesion oral administration is contraindicated, digitalis may be given by the rectum from which it is completely and satisfactorily absorbed.

Some Organic Compounds of Iodine.

The fate of iodine in the body depends on the form in which it is administered. The inorganic iodides are rapidly absorbed and excreted, only a small percentage of the total amount given being stored in the tissues; to maintain an effective concentration in the blood large and frequent doses must be used. The organic compounds on the other hand are stored in the fat deposits of the body and gradually decomposed with the liberation of iodides;[6] though their excretion is very slow, they too must be given in large doses to maintain a high concentration in the blood. There is no evidence that iodine liberated from the organic compounds, is more active pharmacologically than that taken as the inorganic salts. It is, therefore, obvious that when an intensive iodide effect is required, as in tertiary syphilis, large doses of either variety must be administered. A comparison of the strengths and doses of

TABLE III.—DIGITALIS PREPARATIONS.

Trade Name.	Pharmaceutical Description.	Dose equivalent to *tinctura digitalis* (B.P.) one mil (fifteen minims) or *Pulvis digitalis* (B.P.) 0·09 gramme (one and a half grains).	
		Grammes or Mils.	Grains or Minims.
"Digifortis" (Parke Davis and Co.)	Fat-free, standardized tincture	0·6 mil	10 minims
"Digitaline" (Nativelle)	Glucoside	0·00027 gramme	1/240 grain
"Digitalin Amorphous" (Burroughs Wellcome and Co.) ..	Glucoside	0·001 gramme	1/66 grain
"Digifoline" (Ciba)	Said to contain "all the glucosides of digitalis leaf in their natural proportions"	One tablet or 1·0 mil of the solution	One tablet
"Digipuratum" (Knoll)	Another "whole-leaf" preparation	0·09 gramme or 1·0 mil of the solution	1·5 grain

some proprietary preparations and the British Pharmacœpia preparations is set out in Table IV.

The organic compounds produce iodism just as readily as the inorganic salts, if they are given in equivalent doses; the manufacturers' claims to the contrary depend on the fact that the recommended dosage is absurdly small. They do, however, undoubtedly cause less gastric disturbance and are suitable for continuous administration in small doses in cases of arteriosclerosis and the like. It may, however, be pointed out that tincture of iodine or Lugol's solution when dropped into milk form true colloidal solutions[7] which present all the advantages of the relatively expensive proprietary preparations in a cheap and convenient form. For the intensive treatment of tertiary syphilis the inorganic iodides are in every way preferable.

"Novasurol."

"Novasurol" (Bayer) is a complex mercurial salt combined with diethyl-barbituric acid; it contains 34% of mercury. It was introduced in 1917 as an antisyphilitic drug and its incidental diuretic effect in cases of aortic syphilis with heart failure attracted no attention until 1920. It is now used almost entirely as a diuretic in heart failure and in portal cirrhosis and it has been found to be just as effective for non-syphilitic as in syphilitic affections. The pharmacology of its action has not yet been elucidated.

"Novasurol" is used as a 10% solution and the average dose of one cubic centimetre represents 0·03 gramme (half a grain) of mercury. Even this small amount sometimes gives rise to mercurial poisoning and for this reason I always give the first dose intramuscularly; if no untoward symptoms arise, one cubic centimetre is given intravenously forty-eight hours later and repeated as necessary at intervals of one to four days. Copious diuresis almost always occurs three or four hours after intravenous administration, reaching its height in about ten hours. The effect of "Novasurol" may be enhanced by the simultaneous administration of an acid-producing salt; following Jacobs and Keith[8] I have used ammonium nitrate in doses of 2·4 grammes (forty grains) given in capsules, with good results.

In two instances I have seen toxic effects from its use. In the first, colicky abdominal pains commenced three hours after the intravenous administration of one cubic centimetre of the solution and were soon followed by bloody diarrhœa which persisted for twelve hours. This patient had had five previous injections without ill effect, the last being eight weeks before; he recovered within twenty-four hours and has since shown no evidence of permanent damage. In the second patient oliguria followed the first intravenous injection and persisted for twenty-four hours, but at the end of that time the normal flow was reestablished. Gross impairment of renal function contraindicates the use of "Novasurol."

Numbers of clinical reports of its use have appeared in the past two years; in particular Drs. A. E. R. White and D. Zacharin[9] have recently detailed in our own journal an instance of its successful employment. I shall, therefore, not dilate on its therapeutics, except to remark that the mechanical relief brought about by the dispersal of the dropsical fluid has an extraordinarily beneficial effect on the heart itself; this improvement in the circulation is independent of and complementary to that produced by digitalis. "Novasurol" must be regarded as a most valuable addition to our armamentarium.

Cinchophen and its Derivatives.

Cinchophen and its derivatives are all derived from phenol and are closely allied chemically and pharmacologically to sodium salicylate (see Table V). They may be used in rheumatic fever, but appear to have no advantages over the salicylates and, if given in adequate doses, they produce similar unpleasant toxic effects. The cinchophen compounds, however, have a much greater effect than the salicylates in promoting the excretion of uric acid. They are, therefore, of service in lessening the number of attacks of arthritis and in moderating other manifestations of chronic gout. I have not found them the equal of colchicum in relieving acute attacks of gout, but their analgesic effects are sometimes usefully employed in the pains of non-specific arthritis and fibromyositis. They are best given as tablets which should be swallowed with four grammes (one drachm) of sodium bicarbonate dissolved in three hundred cubic centimetres (half a pint) of water to aid in suspending the eliminated uric acid. Occasionally severe and even fatal

TABLE IV.

Name.	Percentage of Iodine Content.	Dose equivalent to potassium iodide 0·6 gramme (ten grains).
Potassium iodide (B.P.)	76·4	—
Tinctura iodi mitis (B.P.)	4·5	9·6 mils or 160 minims
Lugol's solution	10·5	4·38 mils or 73 minims
Iodipin (Merck) 0·18 gramme or three grain tablets	10·0	4·59 grammes or 76·5 grains
"Lipoiodin" (Ciba) 0·3 gramme or five grain tablets	41·0	1·11 grammes or 18·5 grains
"Riodine" (Astier) 0·18 gramme or three grain capsules	17·0	2·82 grammes or 47 grains
"Iodalbin" (Parke, Davis & Co.) 0·3 gramme or five grain capsules	21·0	2·19 grammes or 36·5 grains
"Iodolysin" (Allen & Hanburys) (also contains "Thiosinanim")—liquid	47·0	Not strictly comparable but sixteen cubic centimetres (four fluid drachms) contain approximately the iodine content of 0·6 gramme (ten grains) of potassium iodide

TABLE V.

Name.	Chemical Composition.	Dose.
Cinchophen U.S.P. "Atophan"' (Schering)	Phenyl-quinoline-carboxylic acid	0·45 gramme or 7·5 to 15 grains
Neocinchophen U.S.P. "Novatophan" (Schering)	The ethyl-methyl ester of the above acid	0·45 gramme or 7·5 to 15 grains
"Atoquinol" (Ciba)	The allyl ester of the above acid	Not stated
"Alophanyl" (Schering)	Sodium salt of the acid + sodium salicylate	5 to 15 cubic centimetres given intravenously

jaundice may result from the use of cinchophen compounds even in small doses[10] and dermatitis sometimes occurs if they are taken for long periods. As a rule, however, no danger need be anticipated, but for safety's sake and because the effect on uric acid excretion is at its height during the first forty-eight hours of administration, I always give cinchophen intermittently four days on and four days off.

Purgative.

We still await the discovery of the long sought hypodermic purgative. The only new drug of importance in this group is "Isacen" which is closely related chemically and pharmacologically to phenolphthalein. It acts in very small doses five milligrammes (one thirteenth of a grain) being sufficient as a laxative. It is not absorbed, being completely excreted in the fæces, so that comparatively large doses can be given when necessary. The dose commonly used as a purgative is 0·02 gramme (one third of a grain). "Isacen" is superior to its parent drug phenolphthalein in that its purgative action is more effective, is associated with little or no griping and causes no symptoms of general depression.

Organotherapy.

I had intended to deal at length with the therapeutic use of preparations of the glands of internal secretion, but I confess myself unequal to the task. The facts of the matter are very difficult to ascertain. The efficacy of thyreoid substance and thyroxin, of "Insulin" and of Collip's "Parathormone" is beyond question. As regards the remainder it is almost impossible to arrive at the truth. The manufacturers, all of whom are interested parties and some flagrantly dishonest, supported by some ultra-optimistic clinicians, would have us believe all things possible to the extracts of almost any organ, even those which possess no internal secretion. On the other hand, the physiological iconoclasts with Swale Vincent as their protagonist stoutly deny and, indeed, ridicule these claims. Gardiner-Hill's contribution to a recent discussion on this subject[11] seems to me to express the position which any sane and unbiassed observer must at present assume:

> I would suggest that thyroid and pituitary extracts have proved extremely useful in certain cases of obesity, adolescent goitre and defective growth, especially when given simultaneously. Our results also show that anterior lobe pituitary extract, when given by itself, has an influence both on growth and carbohydrate metabolism. On the other hand the at present available ovarian and orchitic extracts have in our experience proved entirely useless.

No other organic extracts, singly or together, beside those mentioned, with the exception of adrenalin hypodermically administered, have been proved to have any therapeutic action whatever, irrespective of the route by which they are given. That a market sufficiently profitable to maintain a huge advertising propaganda exists for some hundreds of worthless glandular and polyglandular preparations, is a grave reproach to our profession. The matter is so important that I make no excuse for quoting from Osler[12] a protest expressing in his own lively and vigorous style the attitude of the greatest practising physician of our time.

> The length to which organotherapy has extended (not so much on this side of the water as on the European Continent) beyond the legitimate use of certain preparations is a notorious illustration of the ease with which theoretical views place us in a false position. Because thyroid extract cures myxœdema and adrenalin has a powerful action, it has been taken almost for granted that the extract of every organ is specific against the diseases that affect it. . . . The literature on the subject issued by reputable houses indicates, on the one hand, the pseudoscience upon which a business may be built up and, on the other, the weak-minded state of the profession on whose credulity these firms trade. A second most reprehensible feature is the laudatory character of literature describing the preparations which they manufacture. Foisted upon an innocent practitioner by a travelling Autolycus, the preparation is used successfully, say, in six cases of amenorrhœa; very soon a report appears in a medical journal, and a few weeks later this report is sent broadcast with the auriferous leaflets of the firm. A day or two before I left England a pamphlet came from X & Co., characterized by brazen therapeutic impudence and indicating a supreme indifference to anything that could be called intelligence on the part of the recipients. That these firms have the audacity to issue such trash indicates the state of thraldom in which they regard us.

Conclusions.

Of the remedies I have discussed, a few are of great value, some few more may be worthy of a place in our armamentarium and many are worthless. Almost all are more expensive than the pharmacopœial preparations they are designed to replace. And had the list been selected at random instead of from those drugs of which I have made personal trial, the proportion of worthless preparations would doubtless have been much larger.

How then are we to prevent ourselves and, what is much more important, our patients from being "engulphed in the ever-rising flood of new remedies"? First, I feel very strongly that the British Medical Association should make a determined attempt to check dishonest advertising. The American Medical Association has given us a splendid lead in this

matter. It not only refuses to admit unethical advertisements to the pages of its journal, but it publishes each year an extremely valuable book called "New and Non-official Remedies" (13)

primarily for the purpose of disseminating such information as will protect the medical profession in the prescribing of proprietary medicinal articles. In pursuance of this object the Council examines the articles on the market as to their compliance with definite rules designed to prevent fraud, undesirable secrecy and the abuses which arise from advertising directly or indirectly to the laity . . . . No article will be accepted or retained concerning which the manufacturer or his agents make unwarranted, exaggerated or misleading statements as to the therapeutic value.

Until such time as our own Association bestirs itself, we should gladly avail ourselves of the mine of information this book contains and use it as a guide to the prospective values of proprietary drugs.

But the greater part of the remedy lies in our own hands; it rests with all of us as individuals and with some of us as teachers. We must make and keep our knowledge of pharmacology a live thing by constant reference to books like those of Clark and Cushny, so that we may apply the touchstone of science to our therapeutic beliefs. And, above all, we need clear thinking and a little healthy scepticism in analysing the effects of the curative measures we employ. Once again and finally, I am more than content to let Osler(14) speak for me:

Give our students a first hand acquaintance with disease and give them a thorough practical knowledge of the great drugs and we will send out independent, clear-headed, cautious practitioners who will do their own thinking and be no longer at the mercy of a meretricious literature which has sapped our independence.

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NEW REMEDIES IN URINARY SURGERY.[1]

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THE satisfactory treatment of urinary diseases depends so much upon an exact diagnosis that I feel that this point should be emphasized before discussing the use of drugs in this connexion. The term pyelitis, for example, has little significance as regards treatment unless it is known what organisms are present and what changes have taken place in the urinary tract. The last six patients with pyuria who have been referred to me, have each had a condition which, I venture to think, no amount of drug treatment would have cleared. In fact the term pyelitis might well be discarded, at any rate in cases of long standing and some description of the infecting organisms and of the anatomical conditions present might be a more accurate guide to treatment. Until we can control the sources of infection and insure a free flow of urine from the kidney tubules as far as the exterior of the body, the search for a satisfactory urinary disinfectant is likely to be unsuccessful.

Many new remedies have been introduced and widely advertised as cures for urinary infections. When the conditions already spoken of have been fulfilled, hexamine, I think, still remains the most useful of all the so-called urinary antiseptics. Its effect, as judged by clinical results, does not seem to depend upon the careful attention to the reaction of the urine that chemical experiments would indicate as necessary for its bactericidal action. In urinary surgery its use is specially indicated before and after any operation upon the urinary tract and in cases of chronic renal infection or chronic cystitis which have persisted after all obstruction to the flow of urine has been removed. In certain types of *Bacillus coli* infection which have not reacted to alkaline treatment, where pyelonephritis is present with free drainage from the renal pelvis, a change to acid urine and hexamine has cleared a persistent pyobacilluria. There are many strains of the *Bacillus coli communis* some of which are perhaps as intolerant of acid urine as others are of an alkaline medium.

"Caprokol" ("Hexyl-resorcinol") has been tried in many cases as an alternative to hexamine and has been found less effective in controlling the urinary infection. Some patients have complained of indigestion following its use, some have objected to swallowing the number of capsules required and the restriction of fluid intake in patients with pyelonephritis is a distinct disadvantage.

Mercurochrome has been used intravenously and as a local antiseptic. The indications for intravenous treatment in urological conditions are few and in the patients with septicæmia due to the colon bacillus to whom injections have been given no lasting effect has been produced while the immediate reactions were very severe. A 1% solution of mercurochrome is an excellent topical application

[1] Read at a meeting of the Victorian Branch of the British Medical Association on September 7, 1927.

in inflammatory conditions of the urethra or bladder. The penetrating action of the dye is pronounced and it remains in contact with the mucous surfaces for some hours. It is non-toxic and non-irritating and has considerable germicidal power.

"Borocaine" is a recent addition to the local anæsthetics and has been found to be very effective in producing surface anæsthesia for operations and examinations on the urethra and bladder.

I have used "Phenolaine" in recent cases for local anæsthesia in suprapubic cystotomy and its antiseptic power appears to be of value in these wounds. No toxic effects have been observed, the anæsthesia has been perfect and the solution does not require boiling nor is it subject to decomposition.

SOME NEW AND NON-OFFICIAL ANTISYPHILITIC REMEDIES.[1]

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IN presenting these short notes on the numerous unofficial proprietary antisyphilitic drugs, I must acknowledge that I have collected the opinions of several men practising in Sydney and Adelaide and by combining their opinions with the results of our experiences here have endeavoured to arrive at a fair and sound judgement of values.

In dealing with the large number of antisyphilitic drugs at our disposal, it is well to consider briefly the trend of recent opinion. This broadly follows three main tracks:

1. The increasing importance of the comparatively non-toxic bismuth compounds.
2. The tendency to replace intravenous by intramuscular medication.
3. The decline in the importance of mercury and its compounds; although such an authority as Professor Oppenheim, of Vienna, uses mercury inunctions as routine in all cases.

Arsenic Derivatives.

"Silver Salvarsan."

"Silver Salvarsan" is a blackish brown powder which is not so readily soluble as the other arsenic derivatives; it is indicated in cerebrospinal syphilis and especially in the presence of a preponderance of meningeal symptoms. There is often a moderate reaction after its use and the dosage is 0·1 to 0·3 gramme given intravenously at seven day intervals.

"Sulfarsenol."

"Sulfarsenol" is used as a subcutaneous injection and has a sphere of usefulness in women and children. It has, however, as has any intramuscular or subcutaneous injection of a "Salvarsan" product, a 4% risk of abscess formation and in addition is often very painful. In patients treated at Melbourne Hospital clinic this drug has shown no definite advantages.

[1] Read at a meeting of the Victorian Branch of the British Medical Association on September 7, 1927.

"Sulphoxyl Salvarsan."

"Sulphoxyl Salvarsan" is used intravenously and has a greater reaction than the usual arsenic derivatives. It is used for patients yielding a persistent response to the Wassermann test, but I have not perceived much difference in results.

"Stabilarsan"

"Stabilarsan" is a combination with glucose of much the same dosage as the other arsenic derivatives. It is not so useful in the shock treatment of the early stages, but is highly regarded by Harrison in the later stages because of its more profound and lasting effect on the response to the Wassermann test and is to be recommended in these stages.

"Intramine."

"Intramine" is a thiobenzol preparation by McDonagh, the dose of which is two to five cubic centimetres. According to him it acts as a strong reducing agent in opposition to the oxidizing action of the metals and therefore finds its use when interpolated in the treatment of patients reacting to the Wassermann test. I have seen good results in chronic infections, but there is often intense pain at the site of injection.

"Ametox" and "Thiostab."

"Ametox" and "Thiostab" are proprietary preparations of thiosulphate of sodium and have revolutionized the treatment of the toxic manifestations of arsenic. The dose is from 0·4 to 0·9 gramme and can be repeated daily until the symptoms disappear. They act like a charm on conditions which previously were notably obstinate.

Mixed Injections.

"Cyarsal."

"Cyarsal" is potassium cyan-merc-salicylate, a soluble organic mercury preparation. It is injected intravenously along with the chosen "914" product, for it has been shown that the arsenic derivatives have a more potent action in the presence of a second metal. It is, however, followed by a moderate amount of nausea and vasomotor reaction.

"Bistovol"

"Bistovol" is a new preparation of May and Baker combining bismuth and arsenic in an intramuscular injection. I have had only a limited opportunity of testing its value which is theoretically high, but it is a painful form of injection.

Bismuth.

The production of a comparatively non-toxic bismuth product represents in general opinion the greatest advance since the "914" group was produced. All these products are used as intramuscular injections and they have the notable advantages of simple technique, low toxicity and prolonged period of absorption. We therefore find their value in the treatment of women and children.

They are also invaluable in the treatment of the arsenic tolerant patient. Dr. Cowen will remember

seeing a patient who had had one hundred and six "Neosalvarsan" injections whose response to the Wassermann test turned from a strong positive, and who yielded no reaction after a holiday and sixteen injections of "Muthanol" over a period of eight weeks. There are three types of preparation: (i) Colloidal preparations, so called, which we may dismiss; (ii) aqueous suspensions of metallic bismuth, such as "Bismuthoidal" and Parke Davis's product "Hypotoid Bismuth;" (iii) oily emulsions of the hydroxide of which there are many preparations. "Muthanol" and "Bismogenol" are the imported products and are well and favourably known. "Bismol" is locally made by Felton Grimwade and "Bismuth Hydroxide" by L. Bull. The therapeutic value of all is much the same, but some are more painful than others. For this reason I have continued to use "Muthanol."

These bismuth preparations are replacing mercury in the continuation courses intervening between the periods when "Neosalvarsan" is used and will do so more and more, since Professor Glynn, of Liverpool, has shown that while the value of mercury when given in combination with arsenic remains much the same as it always was, it is unjustifiable to use mercury alone as a routine for syphilitic patients who do not react to the Wassermann test, to prevent clinical and "Wassermann relapses" and finally to cure the disease by destroying any quiescent residual spirochætes. Particularly does he deprecate the reliance on intramuscular injections of mercurial creams, the prolonged use of which leads in these continuation courses to a very high percentage of relapses. Most probably the mercury, being unable to attack the inaccessible residual spirochætes, simply depresses the patient's immunity and it is on this immunity which may be indirectly increased by drugs, that the destruction of spirochætes chiefly depends.

Iodine Products.

"Lipoiodine."

"Lipoiodine" (Ciba) is an organic iodine preparation which is now extensively used. While it has not the same activity as ordinary solutions of potassium iodide it is sufficiently powerful for our purposes and is almost free from the well known disadvantage of the inorganic preparation. Its use where necessary can then be recommended. It is put up in tasteless tablets which are easily taken and it has the same dosage as iodide of potassium.

Prophylactic Treatment of Syphilis.

Coming finally to the prophylactic treatment of syphilis which is now on a definite basis owing to the use of such drugs as "Stovarsol" and "Spirocid," we have the authority of Oppenheim, of Vienna, for the statement that when these drugs are suitably used the success of prophylaxis ranges to as high as 90%. They are used on the 2:3:3 basis and treatment should be commenced within fourteen days of exposure. Two tablets on the first day, three on the second day, three on the third day, then three days' rest followed by a repetition of the first three days. My own experience shows only 60% of success in all cases of this type.

OBERVATIONS ON CONDITIONS AFFECTING HOOKWORM OVA AND LARVÆ.

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PART I.—THE SURVIVAL OF HOOKWORM OVA IN PANS.

THE observations were made with pans of the kind and under the conditions found in many parts of Queensland. The cylindrical iron pans were 30·5 centimetres (thirteen inches) deep and 30·5 centimetres in diameter, with a capacity of about 24·75 litres (five and a half gallons); they were coated with well dried tar. The pans, unprotected from flies, were used in an experimental latrine by two aborigines infested with both *Ancylostoma duodenale* and *Necator americanus* and to some extent by other aborigines. Twenty-one specimens of *Necator americanus* and eighteen of *Ancylostoma duodenale* were eventually obtained after treatment from the two aborigines, but an unknown number was lost. The infections, however, were certainly not very heavy. Cultures of fresh fæces with earth yielded on an average ancylostome and necator larvæ in the ratio of three to one from one of the aborigines and four to one from the other. In some of the experiments additional fæcal material was obtained and put into the pan from a child with a heavy necator infection. Nothing was put into the pan but fæces, urine and sanitary paper. A pan was kept in use usually until full and then covered and set aside for a time; the place used for storage was exposed to the afternoon sun and although the pans were kept covered with bags, the temperature of their interiors probably exceeded the shade temperature in the open. After a few days' storage, if not at the time of removal of the pan from the latrine, all the fæcal material had sunk and was found in a semifluid layer at the bottom of the pan, the contents above it consisting mainly of urine; floating material was usually absent with the exception of fly maggots. In a pan in this condition all the ova are contained in the semifluid sediment and it was from this that samples were taken for culture by means of a glass tube provided with a large rubber bulb. Cultures occasionally made from fæcal material which had remained on the surface and suffered only partial disintegration, always yielded a larger number of larvæ and a higher proportion of necator larvæ than did material from the bottom.

Fresh urine mixed with a large amount of fæces becomes rapidly ammoniacal, within one or two days in hot weather, but the pH never reaches so high a figure as it does in pure urine. The contents of the pans at all levels were always alkaline to litmus paper.

A twenty-five cubic centimetre sample from different parts of the bottom sediment was cultured at the time of removal of the pan from the latrine and again at the end of periods of storage. The samples were washed free from the greater part of the

urine by a single sedimentation from a large excess of water and the sediment was then poured on to dry earth which had been freed from nematodes by heat. After seven days' culture at room temperature the larvæ were isolated in clean water and examined.

The methods of distinguishing between necator and ancylostoma larvæ have been described in a previous paper.[1]

The samples taken at the time of withdrawal of the pans from use always yielded more numerous larvæ than the later ones and necator larvæ were always present as well as ancylostomes. Table I shows the results from the cultures of the samples taken at the end of the periods during which the pans were set aside.

These observations were made from November to February for which months the means of the daily maximum shade temperatures lay between 30° and 30·8° C. (86° and 87·5° F.) and those of the minimum temperatures between 22·7° and 24·1° C. (73° and 75·5° F.).

Under the heading "minimum number of days" is given the period during which the pan was set aside after use before the sample was taken; this being the minimum period during which the ova were exposed to the conditions in the pan. In the case of observation number 8 the results from two samples are recorded, from one of which the urine had not been removed by dilution with water; it is seen that the washed specimen yielded a notably higher percentage of necators than the unwashed, a result similar to that recorded in further observations. The heading "condition of the majority of the ova" records the result of microscopical examination of the samples before culture; ova were found in all stages of disintegration and apparently healthy; development had never proceeded beyond the morula stage. No trouble was met with from the multiplication of free living nematodes in the pans.

When the cultured samples yielded no larvæ, it may be concluded that the great majority but not necessarily all of the ova in the pan were dead. With this proviso Table I shows that necator ova survived a minimum period of two days' exposure to conditions in the pan on one occasion, but failed to survive periods of four days on one occasion and of five days on two occasions. Ancylostome ova frequently survived minimal periods up to eight days and on one occasion a period of sixteen days; in this instance, however, only two larvæ were obtained. Periods of seven days on one occasion and of thirteen and fourteen days on three occasions were fatal to ancylostome ova.

It thus appears that in these conditions ancylostome ova will usually survive for a week in a pan, but not in any number for two weeks; whereas necator ova succumb in considerably less than a week.

So that when pan contents are emptied on to or into the ground, many of the ancylostome ova which have not been more than a week in the pan, will be viable and this is true even in the most unfavourable conditions for survival, a high temperature and the presence of a large amount of urine.

Another practical conclusion of interest is that where excreta disposal is carried out by an imperfect pan system, as in many parts of Queensland where the pan contents are disposed of by the occupiers of dwellings, ancylostomes have a better chance of survival than necators. At present both species are found in Queensland, but ancylostomes predominate.

Some of the observations which have been made in other countries on the survival of hookworm ova in privies, are collected for comparison. Many of them record a longer period of survival than that found in Townsville and this is especially striking where the ova were probably necators. The high temperatures to which the pans were subjected in Townsville and the large amount of urine they contained help to account for these differences. The ratio of fæces to urine in the experimental Townsville pans was probably about one to six and it is evident from details mentioned in the papers that a larger amount of fæces was present in most of the privies investigated elsewhere. This would prolong the time required for the urine to penetrate thoroughly and probably weaken the effect of the

TABLE I.

Number of Pan.	Number of Days in Use.	Number of Sample.	Minimum Number of Days.	Condition of the Majority of the Ova.	Larvæ Obtained on Culture.
I	8	1	16	Degenerated	Two only, ancylostomes
II	9	2	5	Not degenerated	Several hundreds, all ancylostomes
III	6	3	6	Not examined	More than a thousand, all ancylostomes
IV	3	4	8	Not degenerated	Several hundreds, all ancylostomes
IV	3	5	13	Not examined	None
V	6	6	5	Not examined	A few dozen, all ancylostomes
V	6	7	7	Degenerated	None
VI	4	8	2	Not degenerated	(1) Washed specimen: several hundreds, necators slightly predominating (2) Unwashed specimen: several hundreds, about twenty times more ancylostomes than necators
VI	4	9	4	Not examined	Several hundreds, ancylostomes only
VI	4	10	5	Not examined	Several hundreds, ancylostomes only
VI	4	11	6	Not examined	Several hundreds, ancylostomes only
VI	4	12	8	Not examined	Several hundreds, ancylostomes only
VII	5	13	7	Not degenerated	Several hundreds, ancylostomes only
VII	5	14	14	Degenerated	None
VIII	4	15	7	Not degenerated	Several hundreds, ancylostomes only
VIII	4	16	14	Degenerated	None

ammonia formed by dilution and buffer action. As regards the effect of temperature it has been abundantly proved that the survival time is much longer the cooler the weather.

1. Cort [2] and his collaborators in China concluded that more than 95% of hookworm ova in stored excreta are killed within a month at the summer temperature of Soochow and that the period is decreased by the admixture of urine with the fæces to the extent that all the eggs may be dead in two weeks or even less. A large proportion of the ova were ancylostomes.

2. Kobayashi[3] found that during the hot season in Korea hookworm eggs survive as long as twenty days in privies.

3. Stiles[4] concluded that probably not all hookworm eggs were dead within two months in stored excreta at the summer temperature of Wilmington, N.C. The species was necator; the results were based on the appearance of the eggs under the microscope.

4. Takano[5] and his collaborators in Japan where the species was probably *Ancylostoma duodenale*, found the limit of survival of the ova in forty-five litre (ten gallon) jars of excreta to be about a month in midsummer and five months in very cold weather.

An observation was made on the result of burial of pan contents. The pan when withdrawn from use was set aside for eight days after which the contents were emptied into a trench forty-five centimetres (eighteen inches) wide, forty-five centimetres deep and several feet long. The trench was filled with well packed earth which was of loose gravelly character and was protected from direct sunlight. The soil at this time was extremely dry. Nine days after burial, during which time the weather remained dry, a sample of the surface soil over the trench yielded only one free living larva and no hookworm larvæ. Several buckets of water were then poured over the site which was kept continuously moist. Five days later, fourteen days after burial, a surface sample of about five hundred grammes yielded several hundred larvæ including many ancylostome as well as free living larvæ. No necators were obtained, although many had been got from a culture from the pan before it was set aside. A third sample twenty-eight days after burial gave a similar result.

A pan, rendered leaky by nail holes in the bottom, was put into the experimental latrine. The ground round the pan which was in comparative darkness became soaked with urine and liquefied fæces and was sampled for hookworm larvæ at intervals of one and two weeks after installation of the pan. Only very few were obtained all ancylostomes; free living larvæ were numerous. After a fortnight the leaky pan was replaced by a sound one and three weeks later the adjacent ground, still very moist, yielded free living larvæ only.

The result indicates that soil polluted with excreta containing much undiluted urine is unfavourable for the development of hookworm larvæ, especially necators; this is in conformity with culture experiments recorded later. If the soil had been exposed to rain, more larvæ might have developed.

PART II.—THE EFFECT OF URINE AND AMMONIA ON HOOKWORM OVA AND LARVÆ.

The Effect of Urine on Hookworm Ova.

The observations were made to get further information on the action of urine which was thought to be mainly responsible for the rapid destruction of the ova in the pans. The results are recorded in some detail in view of the very different findings of Maplestone.[6]

In the experiments recorded in Table II twenty grammes of fæces were placed in each glass beaker with two hundred and eighty cubic centimetres of fluid, the depth of which was about four centimetres. The beakers were provided with loosely fitting covers. The fluids used were fresh urine or dilutions of it in water. The urine was from several sources, always fresh and acid in reaction and of a specific gravity of at least 1022 at 15° C. The fæcal matter was stirred in the fluid after twenty-four hours' immersion; this caused it to disintegrate and sink if it had not already done so. After the periods stated in the table at summer room temperature the fæcal deposit was washed free of urine by two sedimentations from excess of water and was then cultured by pouring on to dry earth. A little emulsion of fresh fæces, boiled to destroy any ova, was added to the deposit from the second sedimentation before it was poured on the earth in order to insure sufficient food supply for the developing larvæ. The controls were subjected to conditions identical in every respect except that the fluid used was water only. After seven days' culture the larvæ were isolated and examined. The fæces of four different persons were used and the fæces or mixture of fæces in each beaker contained both ancylostome and necator ova.

The results of another experiment on survival of ova in urine are recorded in Table III. Two fæcal specimens were used, one from a person infested with necators only, the other a mixed specimen in which both ancylostome and necator ova were present, the latter being the more numerous. Twenty grammes of each specimen were emulsified in three hundred cubic centimetres of water and passed through wire gauze to remove coarse material. Fifty cubic centimetres of each emulsion were placed in six beakers and fresh urine and water added to the twelve beakers so that each contained one hundred cubic centimetres of fluid about two centimetres in depth containing the percentages of urine shown in the table. The beakers were covered with pieces of calico only and left at room temperature for five days. The contents were then washed free of urine by two sedimentations from water and cultured by pouring on to dry earth after the addition of a little boiled suspension of fresh fæces. The larvæ were isolated after seven days.

Tables II and III show that under the conditions described hookworm ova are killed in three days by 40% urine and in five days by 20% and that necator ova are less resistant than ancylostomes.

TABLE II.

Experiment.	Source of Fæces.	Fluid.	Duration.	Result.
1	J	Urine	7 days	No larvæ
Control	J	Water	7 days	Numerous larvæ; both species
2	H & J	Urine	5 days	No larvæ
Control	H & J	Water	5 days	Numerous larvæ; both species
3	H & J	Urine	4 days	No larvæ
Control	H & J	Water	4 days	Numerous larvæ; both species
4	K & S	70% urine	3 days	No larvæ
Control	K & S	Water	3 days	Numerous larvæ; both species
5	K & H	66% urine	4 days	No larvæ
Control	K & H	Water	4 days	Numerous larvæ; both species
6	K & H	50% urine	3 days	No larvæ
Control	K & H	Water	3 days	Numerous larvæ; both species
7	K, H, J & S	40% urine	3 days	No larvæ
Control	K, H, J & S	Water	3 days	Numerous larvæ; both species

The survival times found in these experiments are much shorter than in the pans, owing probably to the more immediate access of the urine to the ova and its greater quantity relatively to the fæcal material; another factor may perhaps be the more rapid evaporation of the ammonia from the pans.

As already mentioned the results obtained by Maplestone[6] differ surprisingly from these. He found that in portions of fæces put into beakers with fresh undiluted urine the number of viable ova was reduced by only about 50% after nine days and it was fourteen days before all were dead. If the fæces were merely put into tap water the mortality after nine days was nearly as great as with urine, although it was five weeks before all were dead. The fact that the majority of the ova in the specimens used was believed to be necators makes the results still more puzzling. The experiments were made at room temperature in Freetown which is presumably not far from summer temperature in Townsville.

From a study of Maplestone's paper the writer feels convinced that something must have prevented his mixtures from becoming ammoniacal until very late. This may possibly have been the character of the fæces used which were doubtless those of natives. Some fæces from natives on a vegetable diet develope much acid during decomposition.

The Effect of Ammonia on Hookworm Ova.

Observations were made to test the idea that the ammonia formed from urea is an important destructive agent. Kobayashi[3] and other Japanese observers found that ammonia solutions down to a strength of 0·5% kill ascaris eggs in a period depending on the temperature and believe that the effect of urine is due to the ammonia formed.

Table IV records the effect of weaker solutions on hookworm eggs. Two fæcal specimens were used, one containing only ancylostome eggs and the other only necators. Emulsions of each in water, strained through wire gauze, were placed in a series of beakers and ammonia added to form the dilutions shown in the table. The depth of fluid in the beakers was two centimetres and they were left for four days at room temperature covered by pieces of calico and loose lids. At the end of the four days the contents were washed twice by sedimentation and cultured by pouring together with a little boiled fæcal emulsion on to dry earth. Larvæ were isolated after seven days.

Table IV shows that weak ammonia solutions are lethal to hookworm ova and that ova of *Ancylostoma duodenale* are more resistant than those of necator.

TABLE IV.

Parts by Weight of Ammonia.	Larvæ from Necator Specimen.	Larvæ from *Ancylostoma duodenale* Specimen.
Water only	350	110
1 in 2400	850	520
1 in 1200	None	150
1 in 500	None	None
1 in 200	None	None

The Effect of Urine on Hookworm Larvæ.

The detrimental effect of urine is not confined to the ova, but extends to hatched larvæ and here again necator larvæ are less resistant than those of *Ancylostoma duodenale*.

Fæcal specimens emulsified with fresh urine and cultured at once by pouring on to dry earth at the temperature of the Townsville summer yield no larvæ. Such cultures become ammoniacal very soon and remain so during the seven days of culture. Similar cultures made with equal parts of urine

TABLE III.

Percentage of Urine in the Beakers.	Necator Larvæ from Necator Specimen.	Larvæ from Mixed Specimen.	Species of the Larvæ from Mixed Specimen.
0	Some thousands	Some thousands	Both species, necator predominating
2	Some thousands	Some thousands	Both species, necator predominating
5	Less than a thousand	Some thousands	Both species, ancylostomes predominating
10	One only, deformed	Less than a thousand	Ancylostomes only
20	None	None	—
40	None	None	—

and water usually yield no necator larvæ or a very few only, while the yield of ancylostome larvæ is far below that obtained from control cultures with water. These observations were made a number of times.

In the experiment recorded in Table V a mixture of fæcal specimens containing ova of both species was emulsified with water and some of the emulsion cultured by pouring on to dry earth; two other portions were similarly cultured after replacement of the water by almost undiluted fresh urine and by 50% urine respectively. In addition five other portions of the emulsion in water were cultured by pouring as evenly as possible on to dry earth and after various periods these cultures were divided vertically into two equal parts; each part was mixed with excess of pure fresh urine and 50% urine respectively and then the culture was continued by pouring on to dry earth. In this way the larvæ were exposed at various stages of growth to the action of the urine and diluted urine. The quantities of the original emulsion used were so adjusted that each of the thirteen horizontal columns in the table shows the larvæ obtained from approximately the same amount of the original mixture of fæces.

The larvæ were isolated from all the cultures six days after the eight original cultures were made, so that the larvæ which were subjected to the action of urine at later stages of their development, were also exposed to it for a shorter period of time, only twenty-four hours for instance in the case of culture number 8. For this reason it cannot be inferred from the fact that the older larvæ show no certainly significant reduction in numbers, that they are more resistant than the younger stages; although this is doubtless probable.

What the table does show, is that the presence of much urine in the earth kills many young larvæ as well as being detrimental to unhatched ova; this is shown by the results of culture number 5, exposed to urine after forty-eight hours, by which time most of the viable eggs would have hatched and by the results of culture number 6 exposed to urine more than twenty-four hours after the hatching of most of the larvæ. It should be mentioned that in cultures made in this way by pouring emulsified fæces on to dry earth delay in development of viable eggs does not occur to a noticeable extent; neither in the control nor in any of the other cultures were immature larvæ found at the end of the six days.

Another conclusion which can be drawn from the experiment, is that young necator larvæ like necator ova are more susceptible to the action of urine than are young larvæ of *Ancylostoma duodenale*. This is shown by the result of culture number 5 and by the portions of other cultures which were subjected to pure urine.

Two later observations have shown that the lethal effect of urine on both ova and larvæ is largely due to the ammonia developed and that mature sheathed larvæ are not resistant.

1. Larvæ of *Ancylostoma duodenale*, seven weeks old, nearly all of them sheathed were placed in undiluted fresh acid urine in a covered watch glass. After fifty-five hours at an average temperature of about 24° C. the bacterial growth was very heavy, but the urine was still feebly acid to litmus paper. It was replaced by water and next day nearly all the larvæ were alive and active. Larvæ from the batch were later placed under the same conditions in a mixture of one part of water with two parts of the same specimen of urine after it had become strongly ammoniacal. After seven hours most of the larvæ seemed to be dead; the urine was replaced by water and next day only 30% of the larvæ were found to have survived; the rest, most of them sheathed, were quite dead.

2. A fæcal specimen containing ova of *Ancylostoma duodenale* was emulsified in strong fresh urine and equal amounts placed in two beakers to a depth of five centimetres. After eighteen hours the contents of both beakers had become slightly alkaline to litmus paper; from this period both beakers were stirred from time to time, the reactions to litmus tested and sufficient of a 25% solution of sulphuric acid added to one of them to render it slightly acid. After forty-two hours from the start the contents of both beakers were washed and cultured in the usual way; at this period the contents of the beaker which had received no acid, were strongly alkaline and ammoniacal. The culture from the emulsion which had been kept near neutrality, yielded numerous larvæ, the other none.

The observations recorded in this paper show that the ova and larvæ of *Necator americanus* are less resistant to the action of urine and ammonia under

TABLE V.

Cultures.	Period after which half the culture was recultured with pure urine and half with 50% urine.	Total Larvæ obtained from roughly equal amounts of the Fæcal Specimen.	Approximate Percentage of all Larvæ which were Necators.
(1) No urine, control	—	1325	33
(2) With pure urine	—	0	—
(3) With 50% urine	—	48	0
(4) No urine	With pure urine, after 24 hours	0	—
	With 50% urine, after 24 hours	16	0
(5) No urine	With pure urine, after 48 hours	20	0
	With 50% urine, after 48 hours	45	0
(6) No urine	With pure urine, after three days	10	0
	With 50% urine, after three days	54	6
(7) No urine	With pure urine, after four days	920	3
	With 50% urine, after four days	540	40
(8) No urine	With pure urine, after five days	190	13
	With 50% urine, after five days	730	35

a variety of conditions than are those of *Ancylostoma duodenale*. The effect of this must be that in countries where an imperfect sanitary system or the needs of agriculture involve the mixture of urine and fæces in containers and on the ground necators are put at a disadvantage relative to ancylostomes. On the other hand in many native countries where there is no system but the use of the bush, this factor may scarcely exist. These and other biological differences which may exist between the two species may require to be considered in drawing ethnological inferences from their distribution. In Japan and China for instance the relative incidence of *Ancylostoma duodenale* may have been gradually increasing for ages. The same relative increase is probably taking place in North Queensland.

Summary and Conclusions.

Urine is destructive to hookworm ova and the greater the proportion of it present in mixed excreta the sooner are the ova killed.

This action of urine is mainly due to the ammonia formed on decomposition.

Hookworm larvæ, including the sheathed infective stage, are also very susceptible to ammoniacal urine, both in fluids and in earth.

In privy pans as used in Queensland the ova of *Ancylostoma duodenale* often survive more than a week even under the most unfavourable conditions, namely a high temperature and the presence of much urine.

Necator ova and larvæ are less resistant to the action of urine and ammonia under all these conditions than those of *Ancylostoma duodenale*. This may have been bringing about a relative increase in the incidence of *Ancylostoma duodenale* in Queensland.

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SOME CONTRAINDICATIONS FOR HYSTERECTOMY.[1]

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THE question of the contraindications for hysterectomy probably occurs more often than the text books indicate. The books as a rule refer to the necessity of operation. There is a large fibroid of the uterus with hæmorrhage and pain and it has to be removed and the sooner the better for all concerned. Here the objective is clear, but the point at issue is not always so clearly defined as this example indicates. The indications for and against hysterectomy often leave our judgement in the balance and for a time we are at a loss how to decide. The fibroid is not large, there is neither pain nor hæmorrhage and it has been, as it were, discovered by accident by the doctor. Should operation be advised on this silent and symptomless tumour? Quickly our experience runs back with us over past years, unconsciously we have formed certain impressions which it would be impossible to tabulate. And yet these memories are often of more value than any text book memories. They help us more quickly to form a well balanced opinion.

We spoke of a symptomless fibroid; should the uterus be removed or not? Some text books recommend removal and speak of the danger of malignant changes. It has been stated that 10% become malignant, but statistics on this point are well nigh impossible to obtain. The *post mortem* room as well as the operation theatre gives us the impression that fibroids, small and large together, are very common things indeed and that a very large proportion of them goes quite unbeknown and therefore the percentage that becomes malignant must be comparatively small.

That fibroids do undergo malignant change is admitted and when they do, it seems to be towards or even after the climacteric rather than during the child bearing period. The chances are very much against a fibroid becoming malignant.

Howard Kelly years ago uttered an urgent warning against accepting the simple fact of the presence of a tumour as a sufficient indication for operation:

> When it is not larger than a three or four months' pregnancy and produces no subjective symptoms, no treatment of any kind is called for. A careful examination should be made and the patient advised to return for examination at long intervals.

Surely this seems in these days a little too conservative even although there be no symptoms.

An early pregnancy complicated by multiple fibromata may suggest the idea of hysterectomy. But it is really wonderful how Nature herself finds a way out of this difficulty, provided the tumour does not actually obstruct the pelvis. The outlook is more readily understood if we remember that the very large majority of fibroids is not in

[1] Read at a meeting of the Section of Gynæcology and Obstetrics of the New South Wales Branch of the British Medical Association on September 21, 1927.

the cervix, but in the body of the uterus and usually moves upwards with the growing uterus.

Here is an interesting case of a young *primipara* with multiple fibroids to whom hysterectomy had been mentioned. One of the fibroids grew to the size of a fœtal head. The patient was confined to bed for the latter part of her nine months, but had a normal labour and a normal convalescence. I hoped that she would afterwards consent to myomectomy or hysterectomy but so far has not agreed to operation. She now has a living healthy child which she might have aborted had myomectomy been attempted.

Some authors speak of myomectomy during pregnancy as an operation to be thought of, but surely this is exceptional. Why not let the patient go to term and be ready to do Cæsarean section or even hysterectomy, if occasion require. Months after labour myomectomy or hysterectomy may be performed.

A fibroid is so many times larger and more vascular with a pregnancy and consequently myomectomy more difficult and dangerous to mother as well as to fœtus.

Without doubt this conservative treatment is fraught with some danger. We cannot forecast how big the fibroid will grow or what complication may arise, especially in the way of pressure. Yet in a *primipara* the surgeon must remember that this in all probability will be the one and only chance of the patient having a child and consequently the whole of her future outlook and life depend on the surgeon's decision.

The complications that may arise may be varied and unexpected.

Here was a patient who was seven months pregnant and had a pedunculated fibroid the size of an orange situated on the top of the uterus and towards the left side. Quite suddenly she collapsed and became pale with rapid pulse and some abdominal pain, although not very severe. The abdomen was opened and found to contain much blood which came from the ruptured pedicle of the fibroid. Apparently the fibroid had got a sudden squeeze between the costal margin and the pregnant uterus. This seemed to be the only explanation possible.

Another interesting conservative case is at the same time one of both failure and success.

It was that of a young non-pregnant woman with intense dysmenorrhœa due to a small fibroid just above the level of the inner *os*. The abdomen was opened and myomectomy attempted. When half completed it seemed evident that the myomectomy would end in a necessary and compulsory hysterectomy. Rather than remove the uterus, it was decided after much hesitation to cover in the uterine wound and to close the abdomen. This was a most difficult decision and it took much determination to carry it out.

The patient continued to have severe dysmenorrhœa, but refused hysterectomy, as her fiancée was away at the war. She subsequently married and the first labour was uneventful and afterwards she lost her dysmenorrhœa. It is now gratifying to look back on that trying retreat from a hysterectomy. At the time it looked like failure.

But after all the scope of myomectomy compared with hysterectomy must be very limited. Giles[2] has collected a large number of cases. He points out that hysterectomy is a very satisfactory operation, whereas myomectomy needs to justify itself and to provide reasons why it should be preferred. The possibility of the recurrence of fibroids amounts to 10% and of those patients operated on 28% bear children and one of these had four children after operation although none previous to operation.

On the subject of myomectomy as against hysterectomy Giles sums it up by stating that the patient must be of the child-bearing age. But this must be qualified, for a married woman under forty who has failed to conceive, is suitable for myomectomy, whilst an equally aged or even younger woman who is the mother of several children would be more suitable for hysterectomy, as the desire to be rid of the fibroids would be stronger than the desire to have more children. We note that he emphasizes the wish of the patient.

Victor Bonney[3] in a paper "The Modern Scope and Technique of Myomectomy" states that unless there be imperative reasons for hysterectomy, he is in favour of myomectomy. He adds that a woman does not like the idea of removal of her womb and especially a woman who has not had children. Many women object to hysterectomy because they think it will upset them from the sexual point of view and also their husbands. Bonney doubts if all the teaching and all the preaching in the world will much alter traditional feminine opinion on these matters. Incidentally the obstetrician stumbles against this same traditional feminine opinion, if he suggests for any cause an early induction of labour.

Both Giles and Victor Bonney consider that the removal of the uterus has an influence on the ovaries if the patient be under forty years of age and that the symptoms of the climacteric, the distress and the flushings usually come on a year or two sooner than normally.

There are, of course, well known diseases which contraindicate hysterectomy, but it is hardly necessary to mention them, such as advanced kidney or lung disease, diabetes or inoperable cancer and heart disease and others.

And now to look at the subject of contraindications for hysterectomy from another point of view. Berkeley and Bonney[4] in their text book state that apart from its reproductive significance, it is doubtful whether the monthly flow serves any useful purpose, for it is quite certain that the total absence of menstruation is compatible with perfect health. This may be and probably is true, true for a woman in perfect health. But if the health be not perfect, is it still true? For example take a patient of forty with menorrhagia and a systolic blood pressure of 175 millimetres of mercury. There is a fibroid of a fair size present in the uterus. Nature is using the menstrual loss to keep down the blood pressure in the same way as epistaxis or bleeding from hæmorrhoids will reduce blood pressure. In this patient hysterectomy was recently done and when seen a few months afterwards the patient looked and felt exceptionally well. It will be interesting to read her blood pressure during the next few years. Will it tend to rise and how much of the increase, if any, will be due to the fact that hysterectomy has barred a natural outlet?

Here is another patient with probably a fibrous uterus and very heavy periods, lasting up to the fifty-third

year. The blood pressure was high, but it has now soared away at her fifty-eighth year to 245 millimetres of mercury. Hysterectomy was not done and probably she would have been worse had it been done. For the past few years she has evidently lost the beneficial effect of the menstrual loss. Nature, ever careful, carried the periods on for half a dozen years past the allotted span and so staved off the excessive blood pressure that she has now developed.

From these facts it seems wise to measure blood pressure before hysterectomy. And one might also state that in a woman of say thirty-five to forty with increased blood pressure myomectomy would be preferable to hysterectomy, as the menses would continue.

In order to reduce the menorrhagia of hyperpiesis would it be advisable in a very exceptional case to resect the body of the fibrotic uterus rather than perform hysterectomy? This is the utriculoplasty of Howard Kelly. Berkeley and Bonney recommend it in exceptional cases where a young woman suffers from intractable and serious hæmorrhage not associated with a tumour and where there is a sentimental reason against hysterectomy.

Aschner[6] in Germany has this year raised the question of menstruation being an excretory process and he believes that menstrual toxins are produced and that if the flow be arrested these give rise to symptoms of autointoxication leading to disability and a raised blood pressure. He suggests in benign conditions keeping part of the uterus and so maintaining menstruation and he adds that hysterectomy for an innocent condition should not be undertaken lightly. He does not state what benign and innocent mean, but it is in all probability a uterus without a tumour and with heavy menorrhagia.

A few years ago this same partial removal of the uterus gave a very successful result in a patient who had a chronic inversion of the uterus of long standing. The walls of the uterus were very thick and leathery, but the result of this partial resection and restoration of the inversion was very satisfactory and was a distinct advantage on hysterectomy as sometimes advocated for chronic inversion. Unfortunately this patient has been lost sight of.

Youth itself is such a strong indication against hysterectomy that the surgeon welcomes any reasonable means of escaping that operation in the comparatively young. It is true that such cases are rare, but they occur occasionally. Of late X rays and radium have been tried with a certain amount of success. But they are not without danger and may overact especially on the ovaries.

Dr. Bourne[7] in his book, "Recent Advances in Obstetrics and Gynæcology," gives a good summary of the uses of X rays and radium. Both of these agents may be used to reduce the menorrhagia of the young woman suffering from serious hæmorrhage. And they might also be used with older patients at the menopause suffering from arteriosclerosis of the uterine vessels with uterine hæmorrhage.

We almost ask the question can there be any causal relationship between the fibrotic uterus and high blood pressure. It seems to be more than a coincidence. Mackenzie[5] in his "Diseases of the Heart" states:

When symptoms of visceral disease are carefully analysed there appears a great similarity in the nature and origin of them. These reflex phenomena have a great resemblance; especially is this so with all hollow muscular organs. They have similar origins and their reflexes are similar though modified by special development. In spite of the seeming dissimilarity of uterus and heart they are fundamentally the same. The nature of obscure symptoms in affections of the heart may be revealed by an inquiry into the meaning of similar phenomena presented by the uterus.

Other authors have written of fibroids and an associated heart affection. That there is a tendency for the blood pressure to rise with the menopause is admitted by many, but whether it be due to age alone or to disease or to some endocrine or adrenalin action, it is difficult to be sure. These changes are but imperfectly understood as to their causation. Clifford Allbutt, writing of menorrhagia with blood pressure, stated that he agreed that hyperpiesis did set in with women at the menopause. Certainly before doing hysterectomy for menorrhagia it would be wise to measure the blood pressure for it is possible that it may not be at all times wise to defeat nature of an outlet, certainly not without good reason.

In an incomplete way it might be compared with the patient of over sixty who was suffering from a high blood pressure and also from bleeding hæmorrhoids. The latter were so bad that they were removed and not so very long afterwards the patient died of a cerebral hæmorrhage, not as the result, but at least not favoured and assisted by the operation results.

Now I shall be less speculative and come to common clinical grounds and consider other contraindications for hysterectomy. There is the young woman who has undergone many operations for pelvic troubles, following most often on a gonorrhœal infection. She clings tenaciously to the idea that she may still be a mother. She often takes the blame on her own shoulders that she is sterile. To her doctor it is always a pitiable subject to think of her clouded history. There is pain and a heavy discharge and a useless uterus. Hysterectomy is advisable, but the idea is not acceptable to the patient.

Unless the woman is with us in the idea of hysterectomy, it is best to wait till her view swings round gradually. If she should decide hurriedly in favour of hysterectomy, it is even best to urge reconsideration of the question, so that she may feel years afterwards that she did not act on the spur of the moment. Otherwise she may even become mentally affected on the subject.

She, too, like the woman with the fibroid uterus, worries as to how hysterectomy will affect her marital relations. Here the term hysterectomy should mean hysterectomy with conservation of one or both ovaries.

Dr. Webster Bride[8] at the suggestion of Professor Donald, of Manchester, collected interesting data on this point. It was found that 25% were adversely affected, when one or more ovaries were left and when both ovaries were taken the percent-

age was 40%. There was loss of sexual desire and dyspareunia.

Another important point, although it only applies to a small class is, when is hysterectomy contra-indicated by prolapse of the uterus?

Without any portion of uterus left it would be very difficult, if not impossible, to do a successful vaginal repair, but with a subtotal hysterectomy there would be some tissue on which to work.

It is strange how often a patient with complete prolapse appears to think that hysterectomy will cure her, whereas it would but make confusion worse confounded.

A marked case of prolapse in a young woman who had had hysterectomy years before for an acute septic uterus, was indeed pitiable. It was difficult to suggest anything satisfactory. Surely in the face of active sepsis hysterectomy is rarely if ever advisable.

Before undertaking hysterectomy it is advisable as with all cases of sickness to take a general survey of the patient. We must not specialize too much in our outlook when thinking of the pelvis.

Is the patient suffering from any general disease that is causing the menorrhagia *et cetera*? In addition to an examination of heart and lungs and urine, let us take the blood pressure. This may be high, indicative of hyperpiesis or kidney trouble or it may be low after hæmorrhage. Does an exsanguinated patient with low blood pressure contraindicate hysterectomy?

Such a patient of forty-three years died on the table, although the operation was skilfully performed. She had rested and was carefully nursed for several weeks beforehand. There was no preliminary curettage. This might have caused necrosis of the fibroid, but judging from results, it seems as though it would have been a justifiable risk to take.

Certain blood states and especially diseases of the spleen contraindicate hysterectomy.

An interesting patient was a woman, aged twenty-nine years, whose uterus had been curetted several times without success. She suffered from menorrhagia of a severe type. She appeared to be in perfect health otherwise. Subtotal hysterectomy was done and very great trouble was experienced in staying the bleeding. She had most profuse secondary hæmorrhage nine days afterwards. A blood examination revealed a polycythæmic condition of the blood and a red count of 8,200,000. She recovered and some months afterwards had a monthly period, about normal in amount. These gave her great relief. Without them she complained of a bursting feeling in the head. She suffers at times from subcutaneous hæmorrhages and epistaxis. There was originally no enlarged spleen and in fact there was no obvious condition except the menorrhagia to suggest any systemic disease.

Such contraindications for hysterectomy may lie hidden in the path to trap the unwary.

Moynihan[9] states that gastro-enterostomy has been performed for the cure of duodenal ulcer when the patient had splenic anæmia and another patient was suffering from the vomiting of pregnancy.

These then are some of the contraindications for hysterectomy and there are others, but these few notes will serve to introduce the subject which is of great importance.

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Reports of Cases.

PREGNANCY WITH HERPES GESTATIONIS.[1]

By J. L. T. ISBISTER, B.Sc., M.B., Ch.B. (Adelaide),
Honorary Gynæcologist, Royal North Shore Hospital of Sydney.

The patient was a very healthy woman of thirty-one years whom Dr. S. H. MacCulloch had asked me to attend in this confinement which was her second.

The history of the first pregnancy was that all went along happily till the eighth month, when a papular rash, later developing into blebs, appeared around the umbilicus and on the flexor aspects of the arms.

She was confined naturally of a child weighing 2·8 kilograms (six and a quarter pounds) but it died on the fourth day without any obvious reason. Up till the confinement the rash was limited in extent as described,

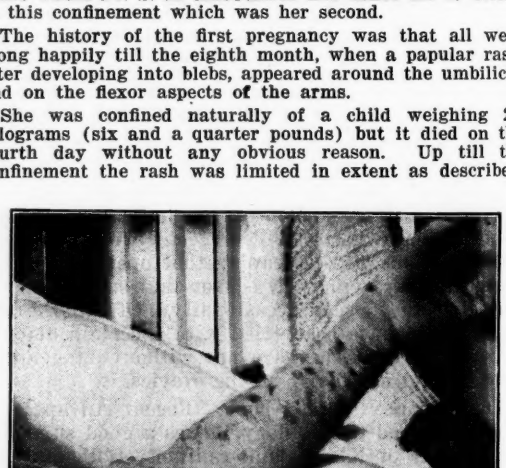

FIGURE I.—Showing Bullæ on Patient's Arm.

[1] Read at a meeting of the Section of Gynæcology and Obstetrics of the New South Wales Branch of the British Medical Association on September 21, 1927.

but it now burst out all over on the scalp, head, trunk, soles of feet and palms of hands. Her condition must have been a pitiable one, as the rash lasted a couple of months or more and was itchy.

With this second pregnancy all went well up to the sixth month, when a little albumin appeared in the urine, but the systolic blood pressure was only 120 millimetres of mercury. The amount of the albumin remained constant, just a definite cloud, but at the eighth month it increased to a heavy cloud and even a slight deposit on sedimentation. The blood pressure rose to 170 millimetres. Then two small flat rose red papules appeared near the umbilicus, then a few more on the upper and flexor aspect of the right arm.

Anticipating trouble, Dr. MacCulloch and I decided to try to induce labour. Quinine and pituitary extract and similar methods failed, even with repeated attempts. The rash increased and fresh areas started on the skin.

In the presence of the rash it seemed risky to use bougies on account of the risk of infecting the uterus. Finally on the due date labour came on, but the child was dead and had been so for about a couple of days. The rash now was most extensive and itchy and there was an enormous number of bullæ or vesicles (see accompanying figures).

Radcliffe Crocker[1] gives a good description. First rose red papules which gradually increase to 1·25 centimetres (half an inch) diameter, then the centre becomes depressed and purple. The patch extends peripherally and so a circle is formed with raised red margin and a flat purple centre. When the circle is about five centimetres (a couple of inches) across, the bullæ appear at the periphery. These do not rupture spontaneously. In this patient the bullæ stood up very prominently and the nurse spent much time rupturing them and they usually refilled again and did not collapse like an ordinary blister. Before the rash came out there was an intense bursting feeling at the spot where the rash would later appear. After the rash was out it became itchy.

FIGURE II.—Showing Affected Arm, Body and Thigh.

The only areas that escaped were the back, scalp and part of the face. There were no bullæ on the trunk, but there was considerable purple pigmentation in large areas.

Quoting again from Crocker: the course of the disease is long and uncertain. It usually recurs with each succeeding pregnancy, being sometimes the earliest indication to the patient of her condition.

He recommends arsenic in increasing dose. This we gave and it seemed to do good, for the patient recovered in about four weeks.

Lately horse serum has been used, but not with success. Others have been treated with injections of blood serum from healthy pregnant women. This has given better results, but not so good as the injecting of boiled milk, fourteen cubic centimetres. This caused a severe reaction, but cleared up the lesions permanently.[2]

If we could have things over again, it would be best to induce labour with bougies immediately the rash began. Evidently the rash is associated with toxins that are fatal to the child. The mother herself is quite well, but the pigmentation is taking a long time to disappear and in some places on the arms, where the rash was most severe, there are slight scars.

References.

[1] Crocker: "Diseases of Skin."

[2] Bittmann: "Ceska Dermatologic," 1922.

PERNICIOUS ANÆMIA.[1]

By F. GUY GRIFFITHS, M.D. (Sydney),
Honorary Physician, Royal North Shore Hospital, Sydney.

R.M., a single woman, forty-two years of age, a school teacher, was admitted on July 7, 1927. The patient had had "nervous dyspepsia" for the last three months and complained of dyspepsia with vomiting, loss of weight and extreme weakness. Thirty-eight years ago she had an attack of "jaundice." Ten years ago she had pneumonia. She had suffered from bleeding hæmorrhoids for the past ten years. Dysmenorrhœa and menorrhagia caused her to undergo an operation for fibroids of the uterus eighteen months ago. Since the operation she has suffered from amenorrhœa and has complained of occasional attacks of pain in the lower part of the abdomen on the left side. The patient said that her right ovary was removed at the operation. A year ago she had "jaundice" for one month.

Her personal and family history are clear.

The history of the patient's present illness is as follows: She had to give up work three months ago on account of "nervous dyspepsia." She vomited everything she ate. She attributed her condition to being forced to work where there was a disagreeable odour. She has had epigastric pain for the last three months. The pain had no apparent relation to meals. During the last three months the patient has lost 6·4 kilograms (fourteen pounds) in weight. Two days ago she became suddenly weak and could not stand up.

On admission there was evidence of considerable dyspnœa. The patient was "jaundiced." Extreme anæmia and weakness were present together with tenderness in the epigastrium and hypochondrium. She had leucorrhœa and hæmorrhoids.

A blood transfusion was given eight days after admission. The following mixture was given by mouth three times a day:

Liquoris arsenici hydrochloridi 0·12 mil (two minims).
Liquoris ferri perchloridi 0·3 mil (five minims).
Acidi hydrochloridi diluti 2·0 cubic centimetres (thirty minims).
Aquam destillatam 15·0 cubic centimetres (half an ounce).

The dose of this mixture has been gradually increased.

The patient has become stronger and her pain and vomiting have ceased since her admission to hospital.

The results of the following blood counts give some idea of her progress. On July 7, 1927, the findings were as follows:

Red blood corpuscles, per cubic millimetre	1,080,000
Hæmoglobin value	16%
Colour index	0·75
Leucocytes, per cubic millimetre	4,385
Polymorphonuclear cells	67%
Lymphocytes	29%
Large mononuclear cells	4%

The red cells manifested a considerable irregularity in size, shape and staining. Several macrocytes and a few normoblasts were seen. No megaloblasts were found.

[1] The patient described herein was shown at a meeting of the New South Wales Branch of the British Medical Association on August 11, 1927.

On July 21, 1927, the findings were as follows:

Red blood corpuscles, per cubic millimetre	1,990,000
Hæmoglobin value	32%
Colour index	0·8
Leucocytes, per cubic millimetre	4,375

The red cells manifested considerable irregularity in size, shape and staining. Several macrocytes and a few normoblasts were seen. No megaloblasts were found.

On August 9, 1927, the findings were as follows:

Red blood corpuscles, per cubic millimetre	1,890,000
Hæmoglobin value	30%
Colour index	0·8
Leucocytes, per cubic millimetre	3,750
Polymorphonuclear cells	68%
Lymphocytes	32%

The red cells manifested considerable irregularity in size, shape and staining. Several macrocytes and occasional normoblasts were seen. No megaloblasts were found.

Comment.

The points to be noted in this case are the extreme anæmia, the hæmolytic jaundice, the profound weakness suggesting pernicious anæmia, despite the low colour index and the failure to find megaloblasts.

Post Scriptum.

The patient continued to gain strength and health. Megaloblasts were found confirming the diagnosis. The dose of her mixture was gradually increased up to double the initial dose. Just before she left hospital on September 16, 1927, the blood examination revealed the following:

Red blood corpuscles, all of good size, shape and staining reaction, per cubic millimetre	2,620,000
Hæmoglobin value	45%
Colour Index	1·0
Leucocytes, per cubic millimetre	2,500
Polymorphonuclear cells	48%
Lymphocytes	37%
Mononuclear cells	12%
Eosinophile cells	2%
Basophile cells	1%

Acknowledgment.

I am indebted to Dr. Graham for the notes on which this report is based.

Reviews.

A TEXTBOOK ON PULMONARY TUBERCULOSIS.

To the rather rapidly increasing number of publications on pulmonary tuberculosis, Dr. Hebert, of Saint Thomas's Hospital, London, has added another entitled "Pulmonary Tuberculosis."[1] Though intended primarily for students, it is doubtful if this will become a standard textbook. It is distinctly sketchy in parts and is not well balanced. Thus only two pages are given to prognosis, an important albeit a difficult section, while dyspnœa as a symptom—and though usually present, it is not often a conspicuous one—occupies two and a half pages. Tuberculous laryngitis as a complication surely deserves more than one sentence, while the differentiating of no less than eight separate forms of pulmonary tuberculosis in children savours of hair-splitting. The chapter on treatment deals with broad principles only and is a useful introduction to larger works on the subject. The author is an acute clinical observer and shows much originality and practical common sense in his views, though we may not agree with all of his opinions. His diagrams of physical signs are ingenious and should greatly aid the student's memory, while his five rules on the value of physical signs should be memorized by every clinician. The chapter on X ray examination is one of the best in the book. It is moderate, sane and unbiased; the uninitiated, wishing to understand something of the interpretation of a chest skiagram, will find here the help they need. His lucid description of hæmoptysis illustrates well the author's love of drawing up schemes and provides a useful lesson in this respect for students. But it cannot surely be common for tuberculous ulceration to occur at precisely the same moment into bronchus and blood vessel. Is not hæmoptysis due rather to a hyperæmia surrounding a tuberculous focus, with an engorged vessel rupturing into a bronchus or to a small aneurysm on an arteriole? If the cause is as Dr. Herbert states, why, as is well known, is it uncommon at this time to find tubercle bacilli in the sputum? Among causes of hæmoptysis might have been mentioned arteriosclerosis and chronic bronchitis, while in Australia hydatid disease is not yet a "rare" cause.

Fibrosis is described admirably and its importance in pulmonary tuberculosis adequately and deservedly stressed. It might perhaps have been more clearly stated that auscultation is of little value in diagnosis and that the important signs are found by inspection.

The "Evaluation of Evidence" is an interesting chapter, concisely expressed. Dr. Hebert refers to the fear patients have of their condition being diagnosed as tuberculous and he offers two very sound rules for dispelling this fear; their broadcast publication would be timely, among doctors and general public alike. The first is that by gradual education the public should be made to realize that some form of treatment is essential in all cases of pulmonary tuberculosis and that the sooner it is instituted the better are the prospects of recovery. The second is that owing to increased accuracy of diagnosis it should be established in the minds of the general public that they will not be regarded and treated as tuberculous unless definite disease exists.

There are too many misprints for a book of this size. A curious one occurs on page 109, "the admittedly *deceased* lung of a patient;" others are "pleural" for "pleuræ" on page 162, "affected" for "effected" on page 111, "90° to 100°" referring to pulse rate and so on.

Practitioners who are especially interested in pulmonary tuberculosis could well afford to find a place on their shelves for this book; it contains much that will help them. Students could be advised to read it as a useful companion to their standard textbook on medicine.

[1] "Pulmonary Tuberculosis," by G. T. Hebert, M.A., M.D. (Oxon.), M.R.C.P. (London); 1927. London: Edward Arnold and Company. Crown 8vo., pp. 219. Price: 7s. 6d. net.

Notes on Books.

THE HARVEY LECTURES, 1925-1926.

AMONG the more valuable annual contributions in medicine is the volume containing the Harvey Lectures for the year. The volume for 1925-1926 is no exception to its predecessors.[2] These lectures are delivered every year under the auspices of the Harvey Society. This Society "lives and moves and has its being" in New York and exists for the diffusion of knowledge of the medical sciences. Dr. F. R. Nager writes "On Some Recent Otological Problems" and Dr. John H. Northrop deals with the "Dynamics of Pepsin and Trypsin." The subject of Dr. Warren H. Lewis's lecture is "The Transformation of Mononuclear Blood Cells into Macrophages, Epithelioid Cells and Giant Cells." Professor J. B. Collop treats of the parathyreoid glands and Professor E. B. Wilson writes on "Empiricism and Rationalism." The two final lectures are by Dr. Knud Faber and Dr. B. Frouwer, the former dealing with an "Historical Outline of Medical Therapy" and the latter with "Comparative Anatomy and Neuropathology."

[2] "The Harvey Lectures Delivered Under the Auspices of the Harvey Society of New York, 1925-1926." Under the Patronage of the New York Academy of Medicine; by various authors; Series XXI; 1927. Baltimore: The Williams and Wilkins Company. Demy 8vo., pp. 229. Price: $4.00 net.

The Medical Journal of Australia

SATURDAY, NOVEMBER 5, 1927.

The Scientific Press.

IN their report to the members of the Australasian Medical Publishing Company, Limited, the Directors have called attention to the growth of the Company's business as general printers and to the development of THE MEDICAL JOURNAL OF AUSTRALIA. The report, which was published in the issue of October 15, 1927, on page 558, conveys in terse language a general impression of the progress made during the past twelve months at The Printing House. The undertaking has not been in existence long enough to have become stabilized from a purely commercial point of view. The business is highly specialized and for this reason more than for any other, the usefulness of The Printing House in the future must depend on the completeness of the equipment and on the recognition by the Company's clients of the value of careful and accurate work. Hitherto no commercial printer has provided an equipment and a specially trained staff to produce modern scientific printed matter in Australia. Many of the symbols, signs and characters required for mathematics, physics and other branches of science are used but rarely. But they must be available. The University Press at Cambridge has found it advisable to cut dies for the casting of special characters when authors devise new symbols. The type founders in Australia refuse to incur the expense of cutting dies even for the rarer recognized characters. A scientific press differs from the commercial press in another respect. Formulæ and complicated equations, technical terms and chemical construction representations cannot be set rapidly. If the printer has to press his compositors to complete their work quickly, this kind of setting will necessarily be unsatisfactory. There is much work belonging to the scientific press that is time absorbing. The commercial printer relies on his customers to indicate exactly on the copy the appearance of the printed matter. The result usually is that the lack of detailed instructions leaves the printer undecided as to what is required. The author discovers numerous errors in technical terms and formulæ and the like and the proofs have to go backwards and forwards until he accepts something like the correct setting. With the scientific press the author is relieved of the necessity for repeated corrections and has the satisfaction of seeing the matter accurately set in the first proof. The reader will realize that all this entails heavier costs to the scientific press, but it is not easy to persuade scientific societies that it is worth while to pay more for this extra service and for accuracy.

Two years and seven months ago when The Printing House had just been established, it was pointed out in these columns that the objective was the creation of a scientific press in Australia and that a great deal of thought and care had been expended on the equipment of the house and on the selection of the printing staff. The assets of the Company include a fine building on an admirable freehold site, the best modern plant and the value of anticipating every requirement of scientific authors. In the course of a little more than two and a half years the undertaking has progressed beyond expectations. The three linotype machines were insufficient to cope with all the matter to be set. The Company has now installed a monotype of the latest pattern and has erected a special room for the caster, in order that the output of work may be maximal. The Company has also installed a third two-revolution printing press to relieve the congestion in this part of the work. Notwithstanding the heavy overhead expenses and the added burden imposed on trade in New South Wales by recent legislation, the returns are increasing steadily and the commercial aspect of The Printing House would be quite satisfactory were it not for the fact that the Company has no fixed capital and in consequence the available balance to meet the heavy current expenses is too small. The turnover is substantial and amounts to a large sum each year. The first stage, that of initiation, is past. The second stage of stabilization may last for one or two years, but in the meantime the reputation of The Printing House as the scientific

press is established and each month brings more work and better work to its credit.

The medical profession will be the chief gainer as the result of the institution of this press. The Directors of the Australasian Medical Publishing Company, Limited, record their appreciation of the increase in importance of this journal. It is being printed under the most favourable conditions and the progress made during the past few years is testimony to the soundness of the policy of keeping the setting and printing in the hands of those responsible for the publication. Other medical publications are being undertaken. Dr. Dew's book on hydatid disease, which will shortly be issued, will be the first book published by the Company and it is hoped that it will enhance the reputation of the scientific press of Australia.

Work of this kind cannot be brought to a successful issue without enthusiasm and hard work. It requires the support of those who watch its progress. Each and every reader of this journal is asked to contribute toward success by recognizing the aim of the Company, by using The Printing House and by recommending individual scientists and scientific societies to support it. With the determined backing of the world of science this press will become a valuable possession within a short time.

Current Comment.

PRIMARY CARCINOMA OF THE LUNG.

IT is not surprising that with the advent of new methods of clinical examination diagnosis has become more accurate. Malignant disease of the lung was for many years almost a closed chapter in medicine. The perfection of radiological methods of examination, the introduction of the bronchoscope and the use of "Lipiodol" have been the means of revealing tumours of the lung which previously were missed. The application of surgical methods to lung conditions, however, has also awakened interest where none previously existed. Bland Sutton has pointed out that primary cancer of the lung will be more carefully studied now that attempts are being made to deal with it surgically. Malignant tumours of the lung may occur either as primary growths or as metastatic deposits from growths of other organs. Those of the former type are now recognized as being much more numerous than was formerly supposed. This subject has recently been considered by B. M. Fried.

Fried states[1] that the most debated points in connexion with primary carcinoma of the lung are its incidence, the methods by which it can be diagnosed in the clinic and the occurrence of metastases. He considers each of these in turn. He refers to the collection by Lubarsch in 1920 of 450 cases from the German literature and to his finding of the condition in 4·5% of all necropsies. Seyforth also reported 307 cases from the Pathological Institute of Leipzig and this figure represented 8% of all *post mortem* examinations performed at that institution. It will be remembered that Cleland reported in this journal this year the findings in one thousand autopsies at the Adelaide Hospital. He reported only two cases of carcinoma of the lung. Fried also refers to a report of 246 cases by Kikuth extending over a period of thirty-five years and reproduces the latter's graph. In this graph it is seen that the total incidence of primary carcinoma of the lung has increased and that the percentage relationship of primary carcinoma of the lungs to all carcinomata has also increased. Fried points out further that Breckwoldt analysed Kikuth's figures and came to the conclusion that the increase noted by the latter was only apparent. Unfortunately he does not reproduce any of Breckwoldt's reasons for this statement. He goes on to state that the relative frequency of this disease, as seen at present in the clinic and at autopsy and as compared with old observations, is beyond question and that cancer in general and primary pulmonary cancer in particular owe their increase to improved medical training and better diagnostic methods, to improvement in sociological conditions of the masses leading to their larger attendance at hospitals and to progress in hygiene and preventive medicine resulting in increased human longevity.

In connexion with the last point it is of interest to note the figures for Australia. When the number of persons surviving for various periods is considered it is found that according to the table for 1920-1922 54·9% of males reach sixty-five years of age and 18·6% reach eighty as compared with 36·1% and 10·4% in the 1881-1890 period. For females the figures are 63·9% and 27·2% for the 1920-1922 period and 43·6% and 15·7% for the 1881-1890 period. It is obviously not sufficient to accept the statement that the increase in malignant disease is more apparent than real. A correct estimate of the incidence of such an obscure condition as primary malignant disease of the lung will not be made until autopsies are more generally carried out. The recognition of the value of *post mortem* examination by hospital authorities and their routine adoption constitute the first step in this direction. If the public were given to understand that *post mortem* examination was undertaken after all deaths in public hospitals it would not be long before the routine was accepted. It is in matters such as this that the medical profession can and should be assisted by hospital boards whose members are to some extent custodians of the public health.

[1] *Archives of Internal Medicine*, September 15, 1927.

In regard to the question of diagnosis it is well known that malignant disease of the lung may remain "silent" for a long time. Most frequently it is confused with tuberculosis and not uncommonly the first symptoms are due to metastases and not to the original growth. In any case the signs and symptoms, as emphasized by Fried, may be "amazingly scant as compared with the amount of tissue involved and the grave character of the lesion." He gives in detail case histories which illustrate this view. They are instructive in several ways. One important fact is that diagnosis was based on physical examination and observation as well as on the results of X ray and bronchoscopic examination. With the elaboration of the latter there is always a tendency to neglect the former. In diagnosis of any condition every available means must be used if error is to be reduced to the minimum. In every instance the bronchoscope was used. In several a piece of tissue was removed with the aid of this instrument and the diagnosis was made certain. In one case the bronchoscope was passed until it met with resistance. At this point no lumen could be seen. A specimen was not removed, but the appearance of the bronchial lumen suggested that some malignant process was infiltrating the bronchial wall. The X ray appearances were "interpreted as compatible with a primary carcinoma of the root of the right lung or possibly a localized non-tuberculous inflammatory process." There may have been some adequate reason, not stated, why a specimen was not removed, but microscopical examination is the only exact method of arriving at a decision. It is not always possible to use a bronchoscope for this purpose. Ewing has classified pulmonary carcinoma into three groups: (i) Those arising from the bronchial epithelium, (ii) those arising from the bronchial mucous glands and (iii) those which take origin from the alveolar epithelium. It is obvious that in carcinoma of the last named variety the bronchoscope would be useless. Fried is quite frank in explaining failure to diagnose the condition of one patient. It was overlooked (i) because the patient's alarming symptoms were directed to other organs and (ii) because of the lack of knowledge concerning the frequent occurrence and behaviour of primary carcinoma of the lungs.

In conclusion it may be stated that carcinoma of the lung will frequently be missed, unless the examiner bears in mind the possibility of its occurrence in all conditions in which the indications are not clear.

In discussing the question of metastases Fried points out that primary carcinoma of the lung possesses a vigorous metastatic power and its metastases are as a rule widely distributed. He states that the rôle of the organ itself in which the tumour arises, is of minor importance in the wide distribution of secondary growths. He refers to two varieties of tumour arising in the liver, hepatoma or carcinoma of the liver cells and cholangioma or carcinoma of the bile ducts. While metastases from cholangiomata are widespread, those from hepatomata are surprisingly scanty. There appears to be no reason why the "rôle" of an organ should be thought of in this connexion. The important point to be considered is which of the varying types of cells making up the organ are involved. There is a vast difference in structure, function and doubtless in chemical composition between the liver cells and cells of the bile ducts. It is obvious that the solution of the question will not be obtained until the nature of malignant disease is discovered. It is well known that the abundance of carcinomatous metastases is in inverse proportion to the rate of growth of the tumour; the slower the rate of growth of the neoplasm, the wider are its metastases. Fried holds that it is very likely that the wide spread of metastases in primary pulmonary cancer is due, "other conditions being equal," to its usually slow growth. He has paid particular attention to metastases in the central nervous system. He examined the brain in eleven of his series of nineteen cases of primary carcinoma of the lung. In nine of these he found extensive metastases. He invariably found tumour cells in either the lumen or walls of vessels of various calibre and also in the capillaries in almost every instance. The brain generally contained numerous tumour nodules, invading practically every part of the hemispheres and also the cerebellum. He holds that the absence of any barrier between the lungs and the brain favours the occurrence of brain metastases. An embolus from another part of the body has to pass through the "sieve" of the lungs before it reaches the brain. Lubarsch believes that both the lungs and the brain are acid-containing organs and that pulmonary cancer reaching the brain finds conditions favourable for its further growth. Fried holds that there is another factor, the excellent blood supply of the brain. This is more favourable to growth of metastatic deposits than are conditions in the lungs, for in the latter organs there is as a rule more or less extensive atelectasis of the healthy part of the involved lung, accompanied by wide necrosis of the tumour itself.

In conclusion reference should be made to one point raised by Fried. He asks whether an attempt should be made to remove a cerebral metastatic lesion which is dominating the clinical picture. He does not answer this question, but he gives the histories of several patients in whom diagnosis of pulmonary carcinoma were made after removal of a metastatic tumour from the brain. These are instructive and illustrate the necessity for complete examination of every system. It should not be necessary to emphasize the importance of this fact in regard to brain tumours. Moreover, in view of his finding of tumour nodules in every part of the cerebral hemispheres and cerebellum at *post mortem* examination the performance of heroic operation for the removal of known secondary tumours cannot be justified. The practice of medicine is concerned with the whole welfare of patients. To give a patient the chance of recovery from a dire lesion is commendable, to subject him to unnecessary pain in the face of impending death is inhumane. To promote the euthanasia in the latter circumstances is the duty of the medical practitioner.

Abstracts from Current Medical Literature.

MORBID ANATOMY.

Amyloidosis.

WILLIAM SUSMAN (*Edinburgh Medical Journal*, September, 1927) has made a series of observations on pathological specimens taken from nine cases of amyloid disease. He has examined sections of tissue from the spleen, liver, kidney and intestine. The tissue was fixed in alcohol or Pick's solution and the sections were stained with methyl violet. Amyloidosis has been produced experimentally by the intravenous injection of broth cultures of *Staphylococcus aureus* previously killed by heat. It has also been produced by toxins, as is seen in animals used for the production of diphtheria antitoxin. In the human subject, however, amyloidosis generally accompanies chronic suppurative conditions. A similar process is produced experimentally by the injection of turpentine. The author points out that a common factor in all these is toxicity and a capacity to damage body tissues. Another coexistent factor is chronic venous congestion and this was present in all cases examined by the author. The conclusion of previous workers suggests that in amyloidosis some splenic product is essential, that the lymphatics and tissue spaces are involved, that each organ affected contributes through cell destruction the protein portion necessary in the amyloid combination and that the process results in an infiltration. The author finds that the earliest lesion in the spleen is seen in the smaller vessels and that only at a later stage are those of a larger calibre affected. This indicates that the process spreads outwards and that the amyloid material is to a great extent a product of the spleen, although some of its constituents may be contributed from elsewhere. There is also an intracellular reaction which is sufficient to indicate that whereas the amyloid process elsewhere is in the nature of an infiltration, intracellular changes may occur in the spleen as well. In no other organs than the spleen is hyperplasia constantly present. It may therefore be inferred that the spleen is in a state of increased activity and that an intracellular substance is produced by the hyperplasia and hyperfunction which is sufficiently concentrated to give a faint but distinct reaction. This is regarded by the author as additional proof that the spleen produces a factor which probably is carried away by the blood stream by way of the splenic sinuses and which assists in the production of amyloid in other organs. The author thus regards the presence of a toxin as essential. He also believes that local damage determines the sight for the deposition of amyloid in an organ. He points out that in the kidney the chief excretory structure, the glomerulus, is first attacked. By virtue of its function the glomerulus is frequently liable to cell damage. He also concludes that the amyloid process results in an infiltration and not in a degeneration. No evidence was found that the disease resulted in a degeneration, for only in the spleen was there any intracellular reaction. On the other hand when the amyloid substance was removed by various methods atrophic parenchymal cells were always left behind. He found that amyloid substance extends by way of the lymphatics from its original site of manufacture in an organ and he is not in agreement with the suggestion made by some observers that amyloid is conveyed in a soluble state to the organ by the blood stream.

Carcinoma of the Breast Combined with Giant Celled Sarcoma.

FERDINAND C. HELWIG (*Archives of Pathology and Laboratory Medicine*, August, 1927) reports the occurrence in a woman, aged forty-three years, of a carcinoma of the breast combined with a giant celled sarcoma. The histological picture was variable. The growth was wild and atypical with an irregular type of epithelial structure and with a striking lack of differentiation of the cells invading the surrounding tissue. There was no evidence of encapsulation. Mitotic figures, bizarre nuclear forms and hypochromatic and hyperchromatic nuclei were abundant. Some cells manifested a feeble attempt at differentiation, but for the most part they were undifferentiated. The variation in cell type and occurrence of nucleated masses of cytoplasm was so pronounced in some areas that the structure closely resembled that of a rather cellular giant celled sarcoma. The sarcomatous appearing structure was composed of large multinucleated giant cells, many of them containing as many as a hundred nuclei. The same appearance was encountered in axillary metastases and in recurrent nodules in the post-operative scar. The author offers three possible explanations for multiple tumours of this kind. The tumours may be true *carcinoma sarcomatoides* in which carcinomatous parenchyma and sarcomatous stroma are present; they may represent two distinct tumours and it may be that metaplasia has occurred with a gradual transition from carcinoma into a sarcoma-like structure. The author holds that the third explanation is best suited to the case which he has reported.

Multiple Cavernous Angioma of the Sweat Ducts.

B. W. CROWHURST ARCHER (*The Lancet*, September 17, 1927) reports the occurrence in a man, aged thirty years, a syphilitic, of multiple cavernous angiomata of the sweat ducts. The tumours were the size of a pin's head and were distributed freely over the lower aspects of the trunk, the abdomen, buttocks, thighs and genitals. The patient suffered from two attacks of hemiplegia. He had signs of cerebral softening and of hypothyreoidism. The retinal vessels were varicose and degenerated and the author considers the possibility of similar involvement of those of the cortex as is frequently found in *adenoma sebaceum*. He thinks that this might explain the occurrence of dementia and hemiplegia at such an early age. He also refers to the fact that mental depression is a frequent symptom of affections of the sweat glandular apparatus, such as *lichen planus*. The patient's brother suffered from a similar skin condition and no evidence of syphilitic infection could be found in him. The author regards this as evidence that the skin lesions of the patient are not related to syphilis.

The Interscapular Gland.

KEITH INGLIS (*Journal of Anatomy*, July, 1927) gives a brief review of part of the literature on the interscapular gland and discusses the varieties of human adipose tissue. Histological examination of human adipose tissue gives support to the view that there are two varieties: (i) composed of connective tissue cells, each distended with a single fat globule, such as is seen in subcutaneous adipose tissue, (ii) that composed of rounded or polygonal cells with central nuclei and many small droplets of fat (mulberry cells), such as is seen deep in the neck, in the axilla and in the mediastinum (glandular adipose tissue). Glandular adipose tissue is found beyond the limits described by Bonnot for the interscapular gland. In particular it is found in the axilla, in the mediastinum and beneath the pleura. Glandular adipose tissue is closely associated with lymph and hæmolymphatic glands, but no evidence was observed by the author to support the view of Hatai and Bonnot that the association is so close as to warrant these structures being regarded as separate elements of a single composite organ. The author describes two tumours arising in the so-called interscapular gland. The first was a hæmangio-lymphangioma with secondary changes in the enmeshed adipose tissue and the second involved the adipose tissue, not the lymph and hæmolymph nodes and was considered to be an example of *lipoma glandulare*.

Renal Infantalism.

F. C. HUNT (*American Journal of Diseases of Children*, August, 1927) reports a case of renal infantalism and reviews the literature of the condition. The affection occurs in children and is characterized by two groups of symptoms, those of abnormal physical development and those referable to altered kidney function. The author holds that infection undoubtedly plays the major rôle in its causation. The pathological findings are chiefly those associated with advanced chronic interstitial nephritis; a moderate degree of cardiac hypertrophy is present and the bones at autopsy show practically no signs of active ossification—a general decalcification is present.

MORPHOLOGY.

The Arterial Supply of the Cerebral Cortex in Man.

J. L. SHELLSHEAR (*Brain*, Volume L, Part 2, 1927) gives a further report of part of his general research into the principles underlying the distribution of the arteries of the body. He thinks that the time has come to examine the vascular distribution in a purely morphological way, not primarily in order to lay emphasis on the clinical aspect of the subject, but to give an account of the vessels in terms of their final areas of supply. The problems he discusses in his report comprise: (i) the determination of the relationship of the arteries to the destructive areas of the cerebral cortex, (ii) the constancy or otherwise of the final areas of supply, (iii) the evolution of the cerebral arteries and thereby the determination of the means by which the primitive arterial supply adjusted itself to the demands of the ever-increasing neopallium. His findings are that the distribution of the posterior cerebral artery and of those branches of the anterior and middle cerebral arteries, previously described, bears a close correspondence with the areas of the cerebral cortex which has been mapped out by macroscopical and microscopical methods. He also shows that the arterial supply of the cerebral cortex is precise in its distribution and might be used as an auxiliary to other methods of determining cerebral localization and finally that the precision of the arterial supply of the cerebral cortex adds confirmation to the law of arterial distribution in relation to function, first enunciated by John Hilton.

Subdivisions of the Facial Muscles.

JAMES W. PAPEZ (*Journal of Comparative Neurology*, April 15, 1927) states that on account of the frequency of facial paralysis in man much interest has always been attached to the central origin of the facial nerve. It is well known that in certain clinical cases a complete paralysis of the lower facial muscles may exist without an involvement of the *frontalis orbicularis oculi* and *supercilii* muscles. The fibres of innervation of these muscles constitute what is called the temporal branches of the facial nerve and the fibres of the other lower branches have their cells of origin in the well-known facial nucleus in the *pons*, but for some time there was much uncertainty concerning the localization of the cells of origin of the temporal branches. Several authors attempt to explain the clinical conditions on the basis of a dual nuclear origin of the nerve, but this author states that from accumulating evidence of a critical nature it becomes evident that a dual origin of the facial nerve does not exist and that the clinical phenomena of a paralysis of the lower facial with an intact upper facial must have some other explanation. The explanation adopted in recent years is that such a paralysis is really supranuclear, involving the pyramidal or cortical fibres that pass down to the facial nucleus. The assumption is that the entire nucleus is supplied from the contralateral pyramidal tract, but that the cells of origin of the temporal branches are supplied by a contingent of homolateral fibres. The findings of the present investigator confirm the opinion of Van Gehuchten and Marinesco concerning functional subdivisions of the facial nucleus, namely that the facial nucleus of mammals follows a common plan of subdivision associated with the differentiation of the facial musculature and branches of the facial nerve. The experiments carried out consisted of the exploration of the various branches singly of the facial nerve in rats, cats, dogs, and guinea-pigs, with subsequent examination of sections of the medulla by the Nissl method to note chromatic changes in the nerve cells.

The Homologues of the Arm and Leg.

M. R. DRENNAN (*Anatomical Record*, April 25, 1927) gives an account of the homologues of the arm and leg and among his conclusions states that there is no evidence of a general serial modification of the arm and leg, such as is usually described as being present. The cephalization of the thumb and big toe is probably a secondary modification of a functional character which is not universally present in all forms and which does not dominate the general morphology of the rest of the limbs, as it is usually supposed to do. He asserts that the arm and leg present a segmental homology, but the elements in each segment are mirror images of each other, so that there is also a symmetrical homology. The symmetry is blurred distally by a cephalization of the hand and foot to form the thumb and big toe—an example of heterogeneous homoplasmy.

Evolution of Man's Erect Posture.

DUDLEY J. MORTON (*Journal of Morphology and Physiology*, December 5, 1926) gives an account of the evolution of man's erect posture and concludes that both anatomical and biomechanical studies reveal the obstructive difficulties which inhibit the direct change of a quadruped to an erect cursorial biped; at the same time they show that an arboreal brachiating interval had established in the ancient anthropoid stock a vertical suspended posture which automatically opened the way for a vertically supported posture on the ground. Because of the peculiar nature of man's morphological characteristics and the apparent order of their appearance, their inception is intimately correlated with ground life and with an upright carriage of the body subsequent to an arboreal brachiating stage such as may be ascribed to the ancient anthropoid ape stem. Hence not only does the study of animal posture corroborate the extensive work on comparative anatomy, embryology and special structures, dentition, brain, the blood and foot development in proving the derivation of the human stem from an ancient anthropomorphous stock, but also it definitely signifies that man has been an erect terrestrial biped from the period of his origin.

Intramuscular Nerve Elements of the Ventricular Muscle.

TUDOR JONES (*Journal of Anatomy*, January, 1927) gives an account of his researches on the innervations of heart muscle. He finds that nerve fibres enter the muscular syncytium and there form endings which replace recognized histological units of the contractible elements. They may also establish relationship of the closest intimacy with the nucleus. The fibres of the more complicated endings of this type enter the muscle substance near their terminations, form a small plexus external to their point of entry and another internally, from which terminal branches proceed. It is impossible to say whether the two modes of termination here described are functionally the same or different. The author further discusses the intimate association that exists between nervous and muscular elements.

The Neurone Junctions of the Spinal Cord.

O. W. TIEGS (*Australian Journal of Experimental Biology and Medical Science*, March 16, 1927) makes a further statement concerning his researches into the existence of synapses in the spinal cord and offers further evidence to substantiate the hypothesis that there are no synapses as usually described, but that neurofibrils from the branching axone of one neurone pass directly into a dendrone of another neurone.

The Epithelium of the Fundic Mucosa.

ALDEN B. DAWSON (*Anatomical Record*, April 25, 1927) summarizes and correlates the scattered observations made on the many types of cells described as occurring in the fundic mucosa. During the past few years several so-called new types of cells have been described for the glands of the fundic mucosa and there are other elements which have been referred to briefly by earlier workers, but whose significance is still more or less problematical. Recent work has also indicated that some of the cellular elements described as epithelial are not of entodermal origin, but have migrated into their position in the epithelium and presumably are of mesodermal origin, probably derivative of certain cells of the connective tissue. After a review of the literature the author concludes that it is still questionable whether it is possible for a mesodermal element to become fixed and to function in the gastric epithelium of entodermal origin.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE VICTORIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the Medical Society Hall, East Melbourne, on September 7, 1927, DR. J. NEWMAN MORRIS, the President, in the chair.

New and Non-official Remedies.

DR. S. O. COWEN read a paper entitled: "Some New and Non-official Remedies of General Medical interest" (see page 632).

DR. J. S. TAIT read a paper entitled: "New Remedies in Urinary Surgery" (see page 638).

DR. KENNETH MCLEAN read a paper entitled: "Some New and Non-official Anti-syphilitic Remedies" (see page 639).

DR. J. P. MAJOR said that he was very much indebted to the opening speakers for the papers presented. He was rather conservative in the use of new drugs. Barbitone was, he thought, the best of the hypnotics and it should be given early in the evening with a hot drink. At the same time the feet should be well warmed and an extra pillow provided. "Luminal" was a very valuable drug. He wished to emphasize the danger of its sudden withdrawal. In London, where he had seen it used extensively in the treatment of epilepsy, it was usually given along with the bromides. The latter were given in doses of usually not more than 1·2 gramme (twenty grains) once or twice a day and continued for many years after the cessation of the fits.

He had used "Novasurol" a good deal and although he had had some good results, he had also seen failures. In one patient hæmaturia had followed its administration, although several subsequent injections had had no effect. He had found that it sometimes produced a definite nocturnal diuresis which still occurred, no matter at what time the drug was administered. He asked whether there was any way of overcoming this inconvenience.

He thought that the value of the ductless gland extracts was much impaired owing to the lack of standardization. He had been very much impressed by the results he had seen in London, from the combined administration of thyreoid and pituitary extracts, but had failed to obtain the same results with some of the preparations on the market in Australia.

He had used mercurochrome in subacute bacterial endocarditis, but had not seen any definite benefit result. It had been shown experimentally that organisms grew more rapidly in blood to which this drug had previously been added in certain dilutions. It did not increase the bactericidal power of blood *in vitro* or when injected into animals which had been rendered septicæmic. It was thought that any beneficial result it might have, was due to the reaction it produced, similar to that following non-specific protein therapy.

DR. A. R. HAYWOOD discussed the use of mercurochrome in puerperal septicæmia. In ten cases at the Women's Hospital, Melbourne, streptococci had been recovered on blood culture, but cultures taken on the day following an injection of mercurochrome had all been sterile. In some of the cases later blood cultures had again given a positive result. Six of the patients had recovered. He thought that mercurochrome was definitely of value in the treatment of puerperal septicæmia. He also referred to the good results he had obtained by the use of tincture of iodine given in milk in doses up to eight cubic centimetres (four fluid drachms) three times a day, in the treatment of pneumonia, pleurisy and pulmonary tuberculosis.

DR. N. A. ALBISTON said that it would be interesting to know how much of the benefit resulting from the use of mercurochrome was due to the drug and how much to the saline solution which was given with it. Experiments conducted at the Veterinary School, Melbourne, had shown that mercurochrome in a concentration twice as great as that usually employed clinically had failed to kill streptococci *in vitro*. Septicæmic animals treated with mercurochrome had all died, but in one animal a chronic eczema had cleared up only to recur again after the injections of the drug had been stopped.

DR. GEOFFREY PENINGTON said that the night diuresis following the use of "Novasurol" had been relieved in one case by the administration of the drug at 8 a.m. He had given mercurochrome to a patient with subacute bacterial endocarditis, from whom *Streptococcus viridans* had been recovered by blood culture. Three weeks later the temperature had become normal and had remained so. He did not think that the favourable outcome in this case could be attributed to the drug.

DR. LESLIE HURLEY said that the reports in the literature on the value of mercurochrome in septicæmia were most conflicting. The manner of administration of the drug had been essentially the same and he thought that the difference in the results was probably due to the variation in severity in the cases in which it had been used. He believed that mild septicæmia was not uncommon and on several occasions he had obtained positive blood cultures from patients who had not appeared to be seriously ill. He had seen two patients with puerperal streptococcal septicæmia recover without the use of mercurochrome. In three cases of streptococcal septicæmia mercurochrome had appeared to be more harmful than beneficial.

DR. J. NEWMAN MORRIS expressed his appreciation of the papers presented, especially that of Dr. Cowen. He, like Dr. Major, was conservative in the use of new drugs. A prominent physician of wide experience had informed him that in the treatment of tuberculosis he had reverted to the use of the older drugs, cod liver oil and the hypophosphites with calcium in addition. Before prescribing any of the newer remedies it was his practice to refer to the literature and consult a standard year book. He had seen jaundice follow the use of "Atophan" and toxic effects from the administration of 0·27 gramme (four and a half grains) of "Luminal" daily for a few days. He approved of Dr. Cowen's suggestion for a pharmaceutical committee of the Branch to investigate thoroughly the newer remedies and inform members as to their value. He realized that it was very difficult to test the therapeutic action of a drug, but thought that members would be willing to bear the expense involved. Chemists complained that the newer remedies were very expensive and were often prescribed in such a way as to cause financial loss to the dispenser. The absence of a lively discussion was evidence that members generally adopted a conservative attitude or that they had not had sufficient opportunity to appraise the value of many of the newer drugs.

DR. S. O. COWEN in reply to Dr. Major said that he was well aware that "Luminal" and the bromides were frequently given together in the treatment of epilepsy. When he had first begun to use "Luminal" he had gradually substituted it for the bromides, but when he had become more impressed with its value, he had started giving it alone and had had no cause to regret it. When "Luminal" alone was not effective, he gave bromides in addition. His experience in the use of "Novasurol" had been the same as that of Dr. Major. He always gave the drug early in the morning and the patient was seldom disturbed by a night diuresis.

The United States Pharmacopœia demanded a standardization of thyreoid extract based on the idoine content, a method which seemed entirely satisfactory. Thyreoid extract did not keep very well, but he had found the preparation of Burroughs Wellcome quite reliable.

He agreed with Dr. Hurley that as a rule mercurochrome did more harm than good, but it might be of some value in acute cases. A recent article in *The Lancet* had contained reports of good results from the use of gentian violet in septicæmia. He had used "Septicimine" only once and it had not been of any apparent value.

Dr. Cowen then discussed the safeguarding of the profession from worthless new drugs. In Germany alone seven thousand new remedies had been patented since the war. It was impossible to test all of these clinically. In America before any drug was placed on the list of non-official remedies, a council composed of physicians and pharmacologists examined it with regard to (i) its pharmacology, (ii) whether it was ethically marketed, (iii) whether there was any justification for the claim

made that it was better than the corresponding official remedy. If the drug satisfied these criteria reliance was then placed on the clinical sense of the profession in general to give it its proper place in therapeutics.

DR. TAIT said that he had been interested to hear the expression of opinion with regard to mercurochrome. He thought that the indications for its use in genito-urinary surgery were very limited.

DR. MCLEAN thought that, used locally, mercurochrome was of great value in acute and subacute gonococcal infections. In subacute cystitis due to staphylococcus or *Bacillus coli* a solution of "Monsol" (one in three or four thousand) used locally every three or four days was very valuable.

A MEETING OF THE SECTION OF OBSTETRICS AND GYNÆCOLOGY OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the B.M.A. Building, 30-34, Elizabeth Street, Sydney, on September 21, 1927, PROFESSOR J. C. WINDEYER in the chair.

Herpes Gestationis.

DR. J. L. ISBISTER reported a case of *herpes gestationis* illustrated with lantern slides (see page 648).

Hysterectomy.

DR. ISBISTER read a paper entitled "Some Contraindications for Hysterectomy" (see page 645).

DR. CRAWFORD ROBERTSON thanked Dr. Isbister for his paper treating on what he considered a very important matter. He thought that there was too great a tendency especially among the younger surgeons to remove the uterus. Subtotal hysterectomy was done often when myomectomy should have been the operation of choice. The percentage of recurrence of myomata after myomectomy according to Giles was low (10%) while Bonney mentioned no recurrences if his teaching was followed. On many occasions the uterus could be spared. He granted that subtotal hysterectomy was the easier operation to perform, but did not consider such a factor should weigh for one moment with the surgeon. He thought that the uterus had certain secretions of its own and that after subtotal hysterectomy the menopause occurred at an earlier age. The use of X rays was feasible in selected cases, but it was necessary to exercise care as to dosage with such a potent remedy. He referred to a patient seen at the Sydney Hospital who had been subjected to X rays for diagnostic purposes at another hospital and whose menses had since ceased.

DR. HERBERT SCHLINK thought that the note of conservatism and caution sounded by Dr. Isbister was admirable. He felt that more stress should have been laid upon the non-fibroid pathological uterus which was responsible for hysterectomy more often than fibromyomata. The majority of mistakes was made as the result of incorrect diagnosis of *fibrosis uteri*. In these cases more attention should be paid to the blood picture as in his opinion it was not excessive bleeding that established the diagnosis, but its effect on the blood stream. He could not believe that the blood pressure was affected to any extent by menstruation, as this lasted but a short period and any loss was rapidly replaced. Further it was not the quantity but the condition of the blood vessels on which blood pressure depended. He thought that the social condition of the patient often had a bearing on the performance of hysterectomy for fibroids. X rays had been mentioned as a factor in the treatment of fibromyomata. He could only condemn this method. A painful fibrosis was produced and an artificial menopause created. Finally he considered enucleation the ideal operation for fibromyomata during the child bearing period, but in the hands of most surgeons hysterectomy was in his opinion far safer.

DR. CECIL COGHLAN congratulated the speaker upon his paper. He said that no uterus should be removed on the evidence of bleeding or pain alone. Too often, however, this was done. The attendant should be certain first that there was no other way open to remedy the condition. The removal of the uterus certainly cured the bleeding, but the cutting off of a hand was not recommended if a patient had a sore finger. Myomectomy was the most suitable operation for fibromyomata. There was a limit, however, to the number of myomata which could be dealt with by myomectomy. Hysterectomy brought on a uterine climacteric and symptoms of a menopause were invariably a sequel. The operation of partial hysterectomy obviated this. The uterine climacteric might possibly be of endocrine origin or due to an interference of a nervous balance between the uterus and ovaries. Again the endometrium might have an effect on the ovaries or *vice versa*. He doubted very much whether the loss of blood during menstruation had the slightest effect on the blood pressure. Increased blood pressure was secondary to general constitutional disease, for example, kidney lesions. General endocrine disturbance or upset of the thyreoid or endocrine balance was associated with increased blood pressure and this was sufficient in itself to explain the increased blood pressure of the climacteric, atypical or otherwise. He did not think that the blood picture could be of any help in the diagnosis of fibromyomata. A relationship had been observed between myomata and irregularities of the heart and digestive tract. He had noticed cardiac irregularities and digestive disturbances in cases of fibromyomata. With regard to X rays as a substitute for hysterectomy, they were useful, but had many limitations. He instanced the case of a patient with rapid increase in size of myomata after treatment by X rays and operation had disclosed that the myomata had undergone a sarcomatous change. X rays should be used in chosen cases, when diagnosis was certain, the tumour not large and bleeding the only symptom.

DR. H. A. RIDLER considered that there were times when it was not necessary to remove the uterus. He thought that in section for a ruptured uterus if the rent were sewn up, the uterus could be retained. Sir Robert Smellie said that there were cases in which it was distinctly inadvisable to remove the uterus.

Again there were, however, cases of *fibrosis uteri* in which it was necessary to remove the uterus. This was exemplified in a patient of his, an elderly woman with a small pelvis. A large fibroma, too large to be enucleated, had been present and the uterus had accordingly been removed as well.

DR. H. C. E. DONOVAN congratulated Dr. Isbister on his paper. In considering hysterectomy *versus* the enucleation of fibroids there were many factors to be considered one of which, and a very important one, was the wish of the patient. She should weigh the extra risk against the possibility of child bearing. A general adoption of enucleation rather than hysterectomy would be a source of danger in the hands of all but the most experienced. It was his opinion that myomata in a pregnant uterus should be left alone and the woman allowed to go to term. There was considerable danger associated with operation. There was grave risk of severe *post partum* hæmorrhage in the interstitial variety of fibroid. He had reported such a case in THE MEDICAL JOURNAL OF AUSTRALIA.

DR. CONSTANCE D'ARCY expressed appreciation at the conservatism evidenced by Dr. Isbister and the several speakers. She felt that fibromyomata in pregnancy should be left alone and in support of this view she related several cases with which she had been concerned.

The first case was that of a woman married late in life who became pregnant four years after marriage. In this case there had been a desire to bear a child and the age of the patient made it likely that she might not again conceive. A small fibroid had been present which grew tremendously with pregnancy. At five months she had thought that there were twins one in front and one in the right cornu of the uterus. The patient had been delivered at term of a healthy infant. At examination after she had been nursing the baby for five months there was no evidence of any tumour.

The second case was that of post maturity with *placenta prævia*. The cervix was rigid. She had used de Ribes's bag and had performed version. The uterus had been divided in two by a subserous fibroid which obstructed the version. The child had been removed *per vias naturales*. Two years later at the patient's second pregnancy there had been no evidence of any fibroid.

After referring to the menorrhagia of puberty Dr. D'Arcy said that she had had experience with the use of X rays as a treatment for fibromyomata and in her opinion success depended upon the right dosage.

DR. BROWN CRAIG considered that possible malignant change could not be overlooked. In this connexion he had had a case which had taught him not to pass over malignant disease for what looked like fibromyomata. The patient was a *primipara*, 41 years old, who had been pregnant fifteen years before he saw her. She had not then been pregnant. The uterus had been enlarged posteriorly and a dense hard movable mass had been palpable. The mobility of the uterus had been impaired. He had taken the mass to be a fibromyoma. He had not operated immediately. Later he had performed subtotal hysterectomy and had carried his dissection well down the cervix. There had been no adhesions on the uterus and no demarcation between the tumour and the uterine muscle. The pathologist had reported that scattered diffusely through the uterine wall were glandular acini lined by a single layer of columnar epithelium. Surrounding these there was a highly vascular stroma similar in appearance to the stroma of the endometrium. The tumour was an endometrioma and malignant in character.

DR. A. J. GIBSON thanked Dr. Isbister for his valuable paper stressing the importance of caution in dealing with fibromyomata.

He referred to the case of a woman sent to the Women's Hospital for operation. He had diagnosed pregnancy with fibroids. The patient had refused to allow the pregnancy to be stopped and the fibroids to be removed as it would possibly be her last pregnancy. It was difficult to distinguish between the uterus and the fibroid. He did not think it justifiable to perform a hysterectomy but had kept the patient under observation.

It was his experience that in most cases the pregnancy would go along all right and the fibroids eventually disappear. He instanced a case of this. The patient at her first pregnancy had had three or four fibroids about the size of marbles. There had been no trouble during pregnancy. At her second pregnancy numerous larger fibroids had been present. She again had had no trouble during pregnancy and moreover there had been no signs of the fibroids afterwards. It was his opinion that fibroids should be left alone during pregnancy if high up in the fundus and not low down in the cervix.

While they should be left alone if they involuted normally, a fibroid which did not decrease during the puerperium should be carefully observed. He instanced the case of a woman with a large fibroid whom he had first seen when she was five months pregnant and who had had an incomplete abortion. The fibroid had been in the anterior wall and the placenta above this and difficulty had been experienced. The patient had made a good recovery, but the fibroid had not decreased in size. One month later there had been free bleeding and it had been considered advisable to remove the tumour. The pathologist to whom it was sent had reported it to be definitely a case of necrobiosis. He would say that if the fibromyoma involuted normally, it should be left alone if not then myomectomy or hysterectomy should be performed.

In justification of a conservative procedure Dr. Gibson mentioned a case of interstitial ectopic pregnancy. At three or four months it ruptured, tearing a hole in the uterus. At operation more than one third of the uterus had been removed. Since then the patient had borne three children.

DR. R. I. FURBER agreed with another speaker as to the rarity of sarcomatous changes in fibroids. He had, however, during the previous year seen two cases of carcinoma of the cervix after supravaginal hysterectomy for fibroids. This confirmed his opinion of the dangers of leaving the cervical mucosa and he felt that when not contraindicated for any particular reason, the mucosa should be removed by a coming out operation. This left a shell of cervix as a central point of attachment for the cervical supports and avoided the dangers of an ordinary panhysterectomy. He thought that insufficient evidence had been put forward to justify the statements that hysterectomy, *per se* determined a true climacteric. There were many other factors that might be the determining cause, for example, women who needed hysterectomy were usually about the menopausal age. The hypothetical risk of bringing on menopausal symptoms was far outweighed by that of neglecting the correct treatment of the condition. With regard to X rays he thought that they were justifiable only at or after the menopause and then only when operative interference was contraindicated. In weighing the indications for X rays the resultant peritoneal adhesions of varying density should be seriously considered in addition to the more obvious objections.

Professor J. C. WINDEYER said that owing to the lateness of the hour he would briefly refer to two points only. In women at the change of life the cervix was higher than normal and if fibroids were present, he would advise a hysterectomy. If there was no enlargement of the uterus and if no symptoms except bleeding were present he would advise diagnostic curettage.

In referring to fibroids complicating pregnancy, he stated that the museum at the Medical School held a very large collection of fibromyomata and he could confidently assert that for the greater number of these the patient should not have been submitted to operation.

MEDICO-POLITICAL.

ANNUAL MEETING OF THE DELEGATES OF THE AFFILIATED LOCAL ASSOCIATIONS OF MEMBERS WITH THE COUNCIL OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

THE ANNUAL MEETING OF THE DELEGATES OF THE LOCAL MEDICAL ASSOCIATIONS AFFILIATED WITH THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION TOGETHER WITH THE COUNCIL OF THE BRANCH was held at the B.M.A. Building, 30-34, Elizabeth Street, Sydney, on October 7, 1927, DR. F. BROWN CRAIG, the Acting President, in the chair.

The following delegates were present: Dr. N. M. A. Alexander (South Sydney Medical Association), Dr. G. A. Buchanan (Central Southern Medical Association), Dr. K. S. Macarthur Brown (Central Western Medical Association), Dr. S. R. Dawes (Western Medical Association), Dr. O. A. A. Diethelm (North Eastern Medical Association), Dr. E. B. Fitzpatrick (Northern District Medical Association), Dr. A. M. Gledden (City Medical Association), Dr. W. B. Grant (Balmain District Medical Association), Dr. H. H. Lee (South Eastern Medical Association), Dr. W. W. Martin (Southern District Medical Association), Dr. R. J. Nixon (Western Suburbs Medical Association), Dr. H. F. J. Norrie (Northern Suburbs Medical Association), Dr. A. T. Roberts (Central Northern Medical Association), Dr. R. A. Robertson (Border Medical Association), Dr. W. F. Simmons (Illawarra Suburbs Medical Association), Dr. F. G. N. Stephens (Eastern Suburbs Medical Association), Dr. F. O. Stokes (Eastern District Medical Association).

Friendly Society Lodge Practice.

DR. W. F. SIMMONS on behalf of the Illawarra Suburbs Medical Association moved:

> That the following addition be made to Clause 5 of the Common Form of Agreement: "Should a member (as defined in Clause 26) require medical attendance in excess of 16 (sixteen) consultations and 8 (eight) visits *per annum*, he shall pay for such excess attendance as follows: Four shillings for each and every such visit and two shillings for each and every such consultation."

Dr. Simmons pointed out that this matter had been discussed at a previous conference of delegates, but had not been approved. The Illawarra Suburbs Medical Association thought that the matter should be considered again. It was held that about 20% of lodge patients received far more attendance than others and that if a

limit were placed on the number of consultations and visits it would have a salutary effect. It had previously been estimated that the average lodge patient was seen eight times in the year in the surgery and four times in the home. For this reason the figures sixteen and eight had been adopted.

DR. R. J. NIXON seconded the motion *pro forma*. He thought that something of the kind would be useful.

In the discussion several delegates pointed out that this proposal was contrary to the spirit of friendly society practice. The opinion was also expressed that a great deal of clerical work would be necessary if such a proposal were carried into effect and also that whereas at the present time a lodge doctor could visit his patients as frequently as he desired, it might not be possible for him to do so if the proposal were carried. The motion was withdrawn.

Dr. Simmons moved on behalf of the Illawarra Suburbs Medical Association:

> That in view of the increase of the basic wage and the *Family Endowment Act* increasing the wage earner's incomes, the time has arrived for a revision of the income limit clauses and also of the rate of remuneration of medical officers of lodges.

Dr. Simmons said that the motion was self explanatory. A large section of the community was composed of pepole who should be receiving lodge benefits and they could not do so on account of the high basic wage. Some alteration was necessary.

DR. F. G. N. STEPHENS seconded the motion. He thought that the increase should be in proportion to the increase in the basic wage.

The Honorary Secretary said that the Branch had been approached by the friendly societies in this regard. He noted that one of the local associations had expressed itself as not in favour of increased remuneration being paid to the medical officer, although it thought that there should be an alteration in the income limit. In these circumstances he thought that these two aspects of the subject should be considered separately. He pointed out in conclusion that in the model form of agreement which was being considered by the Federal Committee, the income limit was £312 *per annum*.

At the suggestion of the Chairman, Dr. Simmons agreed to split his motion into two parts. During discussion it was pointed out that it was difficult to estimate the income limit in a farming community. Both parts of the motion were carried.

Dr. Simmons moved on behalf of the Illawarra Suburbs Medical Association:

> That the Common Form of Agreement be amended to provide that the Secretaries of lodges be required to obtain from every member once in every three years a declaration that his income does not exceed the existing upper limit.

He held that at the present time no attempt was made to check the lists. He was quite agreeable to making the period five years if it was thought more suitable.

Dr. S. R. DAWES, of the Western Medical Association, seconded the motion.

It was pointed out that there were great difficulties. There were in the State from 250,000 to 300,000 lodge members and upwards of a million people were getting medical attendance under the agreement. If the proposal were to be carried into effect, the lodge secretaries would require to have statutory powers. At the same time it had to be remembered that lodge secretaries had not much time and had no staff; it was difficult for them. If lodge practice were a Government system like national insurance, it would be an offence to make a false declaration. If a man refused to make a declaration, the onus would be on the doctor and all the other doctors would have to know.

During discussion some difference of opinion was manifest. Some delegates thought that although it was desirable to carry the suggestion into effect, it was impracticable. One delegate suggested that a statutory declaration might be attached to the application form for admission to the medical benefits of the lodge and another thought that the matter should be left to the tact of the doctor.

The motion was carried.

Dr. Simmons moved on behalf of the Illawarra Suburbs Medical Association:

> That it be a recommendation to the Council of the Branch that arrangements be made with the Friendly Societies Association of New South Wales that a uniform application form for membership be provided and supplied to every lodge secretary to be handed to every prospective candidate for medical benefit; such form to set out clearly particulars of the income limit clauses and to be brought by the candidate (signed by him) to the medical officer at the time of examination.

Dr. Simmons said that certain orders included religious clauses in their application forms for membership and separate forms would be required for medical examination.

Dr. G. A. BUCHANAN, of the Central Southern Medical Association, seconded the motion. He thought that if the practice proposed in the motion were introduced, it might prove effective.

The motion was carried.

Dr. G. A. Buchanan moved on behalf of the Central Southern Medical Association:

> That the Common Form of Agreement be altered to disallow medical benefit to lodge members for treatment of injuries which come under the *Workers' Compensation Act*.

Dr. Buchanan said that he thought that something definite should be laid down in connexion with the matter.

Dr. O. A. A. Diethelm, of the North Eastern Medical Association, seconded the motion.

The Honorary Secretary said that the matter had been before the Council of the Branch and the Friendly Societies' Association. The latter body was in favour of the temporary exemption of the injured worker from medical benefit of the lodge; the question was how to bring it about. A clause had been drafted. The matter was still under consideration by the Friendly Societies' Association. Any method adopted should not be too elaborate and it would have to be incorporated in every agreement between medical practitioner and lodge.

Dr. Buchanan said that he thought that definite instances had been reported in which insurance companies had refused to pay compensation where the injured worker was a lodge patient.

The motion was carried.

Dr. W. F. Simmons moved on behalf of the Illawarra Suburbs Medical Association:

> That in view of the universal acceptance of the forty-four hour week, the Common Form of Agreement be so amended as to eliminate the consulting hours for Saturday, urgent cases only being taken.

He said that when the Dooley Government brought in the forty-four week in 1922, an immediate increase had occurred in the number of patients coming to the consulting room on Saturday mornings. With the advent of the Fuller Government and the reintroduction of the forty-eight hour week Saturday morning consultations had fallen again to normal. The crush of Saturday morning had come again with the Lang Government. He suggested that only those who actually needed treatment should be seen on Saturday mornings. The Rockdale Friendly Society's Dispensary at Rockdale refused to dispense "repeat" medicines on Saturday mornings. He felt strongly that something should be done in the matter.

DR. F. G. N. STEPHENS, of the Eastern Suburbs Medical Association, seconded the motion.

In reply to a question Dr. Simmons said that the Saturday morning visit to the surgery seemed to be a new form of amusement.

In the discussion several delegates expressed the opinion that it would be impossible to treat private patients and to send lodge patients away and others held that it would

not be fair to lodge patients. It would mean that they would have no opportunity of consulting their doctor from Friday night till Monday morning.

On being put to the meeting the motion was lost.

Workers' Compensation Act.

DR. F. BROWN CRAIG, the Acting President, said that the Government Insurance Office and the Associated Licensed Insurers had approached the Council with a view to arrangements being made whereby the medical attendant might look to the insurer for the payment of his fees and charges instead of looking to his patient. A schedule had been drawn up for the purpose. If the insurer were not the Government Insurance Office or one of the Associated Licensed Insurers, the schedule would not apply. In any case if the medical attendant so wished he could always, as he had to at present, look to his patient for his fees.

Several motions had been put down for consideration in regard to the *Workers' Compensation Act*, but these were withdrawn with the consent of the meeting as being unnecessary in view of what the Council had already done.

Dr. H. H. Lee, of the South Eastern Medical Association, moved:

> That this meeting expresses its disapproval of any member practising as a general practitioner in the same district in which he is employed as a salaried officer of an insurance company examining workers under the *Workers' Compensation Act*.

He said that the conditions mentioned in the motion might not affect all localities, but it affected some to a considerable extent. They allowed unfair competition, they gave a man an unfair entrance to a house and access to the patients of another practitioner. An insurance officer should do nothing more than examine: the temptation was great to treat other members of the family. The salaried officer of a district should not be in general practice in that district. This occurred in the district which he represented. If the practice was allowed to continue, friction would take place and a rupture occur between members in the locality.

DR. T. W. LIPSCOMB seconded the motion *pro forma*. He thought that Dr. Lee had made out a good case. He questioned whether the medical officer of an insurance company had any right to go into a home.

Dr. Lee said that if an injured person did not allow himself to be examined by the medical officer of the insurance company, his money was stopped.

DR. A. T. ROBERTS, of the Central Northern Medical Association, said that in the northern coal fields the men themselves had endeavoured to prevent examination by insurance companies' medical officers. They had fined every man who submitted himself to such an examination, the sum of one pound.

In reply to a question by Dr. G. A. Buchanan, Dr. Lees said that the predecessor of the practitioner to whom he had referred, had received a remuneration from the insurance companies of £900 *per annum* and some expenses.

Dr. R. H. Todd pointed out that under the 1915 Act workers had had to submit to examination by the medical referee of the employer and it was this power which had done much to break up the act. It had been regarded as tyranny. Under the 1926 Act the employer had no power to require the injured worker to be examined, but under the Amending 1927 Act, the medical referee of the employer could see the injured worker in consultation with the medical attendant. The principle of salaried medical officers in competition with other practitioners was existent and it would be difficult to interfere in a specific instance without interfering in all. At the same time he could quite see the disadvantage.

DR. F. G. N. STEPHENS, of the Eastern Suburbs Medical Association, thought that there might be varying circumstances as between city and country and he thought that the local association should have some say in the matter.

The motion was carried.

Dr. H. H. Lee moved on behalf of the South Eastern Medical Association:

> That this meeting is of the opinion that the *Workers' Compensation Act* should be amended in such a way as to enable medical practitioners to recover fees owing to them for medical treatment of injured workers under the Act directly from the insurer concerned instead of as at present being forced to recover their fees from the injured worker himself and further this meeting requests the Council to bring this matter before the proper authority and use its influence to have such alteration effected as soon as possible.

Dr. Lee said that the insurance companies received premiums intended to cover benefits up to the sum of fifty pounds. At the present time the injured man was treated, the bill was sent out and the medical practitioner was offered half the amount. If he accepted this it was satisfactory; if not, that was all he got. The doctor might sue the patient and the patient sued the employer and the employer sued the company. Dr. Lee had done this. The bill for one attendance had amounted to £31 10s. and no reply had been received from the company. He had written to the patient saying that he intended to sue. He had then been offered a sum of £25 by the insurer. He had refused this, had issued a default summons and had received a verdict for the full amount and his costs had amounted to £3 9s. In another instance he had been offered £1 1s. in settlement of an account for £2 2s. He had issued a summons and had recovered the full amount of the bill, but it had cost him £2 8s. In a third instance he had been offered 5s. for an account of 10s. 6d. and had recovered the full amount on issuing a summons. For an account of £2 2s. he had refused £1 1s., had recovered the full amount on a summons and his costs had been £2 18s. It appeared to be necessary either to accept half the amount of the bill or to fight in court and to get a bloodless victory. The act should be amended so that the insurance company would be liable for fees, there should be a straight out fight between the insurance company and the doctor. It was not possible to get costs against the defendant unless the amount of the bill was more than £10.

The motion was seconded by Dr. G. A. Buchanan, of the Central Southern Medical Association.

DR. F. BROWN CRAIG, the Acting President, said that the basis of the agreement in connexion with the new schedule was that the account would be sent direct to the insurer.

In the discussion which ensued several of the country delegates said that it was a common thing to send a bill to a worker and that he promptly disappeared. The medical practitioner in these circumstances had no redress.

The motion was carried.

Income Tax and Deductions.

DR. S. R. DAWES, of the Western Medical Association, proposed and Dr. W. F. SIMMONS, of the Illawarra Suburbs Medical Association seconded a motion in regard to the question of increased allowances on depreciation of instruments, motor cars and books. The motion was carried.

Examinations for Life Insurance.

DR. W. W. MARTIN, of the Southern Districts Medical Association, moved:

> (*a*) That a fee of £1 1s. be charged for examination of proponents for life assurance policies assuring up to £200 provided that forms supplied to be filled in by the medical examiner are not those asking for minute and detailed statements but more limited in character.
>
> (*b*) That a fee of £2 2s. be charged for examination of persons assuring for sums between £200 and £1,000.

During the discussion Dr. H. H. Lee opposed the motion; he said that he thought that medical practitioners were well paid for half an hours' work. The motion was lost.

Representation on the Council of the Branch.

DR. N. M. A. ALEXANDER moved on behalf of the South Sydney Medical Association:

> That the Constitution of the New South Wales Branch of the British Medical Association be amended so that the Local Associations shall have direct representation on the Council.

DR. H. F. J. NORRIE, of the Northern Suburbs Medical Association, seconded the motion *pro forma*.

The Honorary Secretary said that the motion had been moved on the assumption that the local associations were part of the constitutional organization of the Branch. This was not so. The Association was composed of Branches and Divisions. The Australian Branches were Divisions of the Association and herein lay the difficulty in connexion with the motion. The local associations were voluntary bodies many of which had been in existence for many years. They had been utilized by the Branch for the sake of organization, rules had been drafted and when the local associations chose to adopt these rules they could be affiliated with the Branch. It was thus evident that the local associations were not provided for in the constitution of the British Medical Association. It might be an advantage in many ways to have constituencies, but such an arrangement would require vital alterations and might operate detrimentally. Moreover, the work of the council was so intense that anyone who lived far away, would be of no use as a member. It had been tried. For many years one member of the Council had lived at Newcastle and he had been able to attend only about twice a year. Such an arrangement would make the Council weaker. In any case it would require a new constitution, new articles would have to be made. He thought that if the amount of intimacy between the local associations and the Council could be increased, all that was sought for could be effected. The Branch, as constituted, was a most democratic institution, he knew of none which was more democratic. The whole Council retired each year and a new one was elected. Most members of the Council had been in general practice and local associations were responsible for the election of several of them. At the present time local associations were invited to appoint representatives to be present at meetings of the Council. This was a voluntary arrangement and was advantageous because the views of the local associations could be ascertained in any particular matter. The annual meeting of delegates was instituted for the purpose of bringing the local associations into close touch with the Council and with one another and it served that purpose very well. It extended the Council into the country and over the State. In conclusion he suggested that any local association could ask a member of the Council to act for them in any particular matter or to act generally for them. It would be the same in effect as if they had their own representatives.

The motion was lost.

Ambulance Regulations.

DR. S. R. DAWES moved on behalf of the Western Medical Association:

> That the Council do what it can in framing a stricter interpretation of Rule 80 of Ambulance Regulations in regard to giving ambulance men permission to remove patients (not accident cases) to hospital.

He said that in the country patients were frequently brought to hospital by the ambulance people when they were not suitable for admission and the hospital authorities had no alternative but to admit the patient. The motion was seconded by Dr. R. A. Robertson and carried.

Vote of Thanks.

A hearty vote of thanks was extended to Dr. F. Brown Craig, the acting President, for the manner in which he had presided over the meeting.

Medical Societies.

THE MELBOURNE PÆDIATRIC SOCIETY.

A MEETING OF THE MELBOURNE PÆDIATRIC SOCIETY was held at the Children's Hospital, Carlton, on August 10, 1927, DR. W. W. MCLAREN, the President, in the chair.

Gaucher's Disease.

DR. W. W. MCLAREN showed a child, aged six years, with an enlarged spleen, first noticed at the age of nine months. Since this time there had been a progressive enlargement of the abdomen. This had been accompanied by frequent attacks of pain and vomiting.

On examination the spleen was found to be grossly enlarged and more than half filled the abdomen; the liver was 7·5 centimetres (three inches) below the right costal margin. There was no enlargement of lymphatic glands. A complete blood examination revealed nothing abnormal and the von Pirquet and Wassermann tests had both failed to yield a reaction.

Examination of the fluid obtained from splenic puncture had revealed blood cells only. There was no family history of splenomegaly.

Dr. McLaren regarded the patient as suffering from Gaucher's disease in view of the above findings and the absence of hæmorrhages, ascites and jaundice.

Chronic Nephritis.

DR. J. W. GRIEVE presented a boy, aged nine years, who had suffered from attacks of vomiting, drowsiness and frontal headache of some years' duration. The attacks lasted for about twenty-four hours and recently had been occurring as frequently as every two weeks. Between the attacks he was perfectly well although he easily became tired after exercise.

There was a history of frequent sore throats until sixteen months previously when the tonsils had been removed.

The systolic blood pressure was 200 and the diastolic 140 millimetres of mercury. The urine manifested a gross pyobacilluria and contained a considerable amount of albumin. The blood urea was fifty-six milligrammes per one hundred cubic centimetres and the urea concentration only 1·06% after the second hour. A pyelogram revealed extremely dilated and tortuous ureters.

Dr. Grieve discussed the ætiology of chronic nephritis in children and mentioned a congenital dilatation of the ureters as one causative factor. In some cases a high blood pressure developed as in the patient shown.

DR. W. W. MCLAREN inquired if any surgical treatment were possible.

DR. MERVYN STEWART quoted the American teaching of a posterior urethral flap intermittently obstructing the urethra and causing the gradually increasing dilatation of the ureters.

DR. RUPERT DOWNES related the history of a child with a large tumour of the right loin and palpable tumour extending down to the right iliac fossa. The patient had been almost moribund on admission. Operation had revealed an enormous pyonephrosis of the right kidney and a grossly dilated ureter. There had been no obstruction between the ureter and the bladder. The mass had been drained from the loin and the child had made an uninterrupted recovery and was so well that the parents refused any further operative interference.

Tuberculous Dactylitis.

DR. DOUGLAS GALBRAITH showed a girl of two years, seen first one month previously, with a history of swelling over the right thumb. This had first been noticed by the mother one month previously. The thumb had been much swollen over the metacarpal with slight reddening of the skin. A skiagram revealed typical changes of tuberculous dactylitis, confined to the first metacarpal. Some pus had been removed by aspiration and on examination Dr. Webster had found tubercle bacilli. It was of interest that the father of the child was suffering from open pul-

monary tuberculosis and it was hoped to show later whether the organism in the pus was of the human or of the bovine type.

Therapeusis so far had been confined to splinting and general tonic treatment and the opinion of the surgeons was asked as to whether more radical measures were considered advisable.

DR. RUPERT DOWNES agreed that the present treatment was sufficient and suggested further aspiration if necessary. He also advocated heliotherapy and said he would curette the diseased bone if the skin became involved.

DR. MERVYN STEWART inquired whether the massive type of tuberculous diaphysitis as described by Fraser was often seen in Australia.

DR. J. H. KELLY described a patient with a tuberculous dactylitis of the right great toe who had also developed a lymphangitis and scrofuloderma in the region of the popliteal fossa.

DR. H. BOYD GRAHAM quoted a patient whom he had presented several years previously with multiple tuberculous dactylitis. This child also had given a positive response to the Wassermann test.

DR. GALBRAITH said that he had never seen Fraser's type of tuberculous diaphysitis in Australia.

Scurvy.

MR. C. H. OSBORN and DR. H. BOYD GRAHAM showed a female child, aged one year, who had been fed on condensed milk and very little orange juice. The child had a swelling of the right femur with a large subperiosteal effusion.

This patient was shown in advocation of early exploratory operation if there was any doubt as to the possibility of acute osteomyelitis.

Still's Disease.

DR. H. LAWRENCE STOKES showed a boy, aged thirteen years, who had complained of some pain in his hands and feet and increasing stiffness during the previous twelve months; he had also complained of constantly feeling tired and of frequent "growing pains." Examination revealed a typical rheumatoid arthritis corresponding to the condition described by Still. The spleen was definitely enlarged. The throat and nasal sinuses had been investigated by a throat specialist and pronounced normal. The teeth were normal. There was a definite point of tenderness over the gall bladder. The gall bladder area had been subjected to X ray examination twice by Graham's technique and on each occasion the gall bladder had not been outlined in the dye. A duodenal culture had been taken and streptococci grown. These had not yet been identified but are probably *Streptococcus hæmolyticus*. These findings suggested that the gall bladder was pathological and the interesting point was whether the gall bladder infection was the cause of the rheumatoid arthritic condition.

DR. D. M. EMBELTON asked if any gastric analysis had been made with regard to hydrochloric acid content.

DR. H. BOYD GRAHAM said that he had seen a gall bladder full of gall stones which had been removed from a child of eight years.

MR. C. H. OSBORN said that he had removed an acutely inflamed gall bladder from a child of six years.

Heart Block.

DR. STOKES'S second patient was a boy, aged fourteen years. This patient had been shown by Dr. A. P. Derham before the Pædiatric Society on April 13, 1927, as suffering from a defect, possibly congenital, in the nodal and conducting mechanism of the heart which sometimes developed a rhythm of true paroxysmal tachycardia alternating with what was regarded as fibrillation and with a possible 2 : 1 heart block. An electrocardiographic tracing had been taken at the Melbourne Hospital and showed a rapid pulse with summation of the *P* and *T* waves.

The boy had a papilloma growing from one of his vocal cords giving rise to aphonia, but otherwise he suffered very little disability beyond slight palpitation at times. He could do light work and could even play games such as football with pleasure.

X ray examination revealed an enlarged heart but no other abnormality. The serum had not reacted to the Wassermann test.

Further electrocardiographic investigation had revealed an extraordinarily interesting state of affairs. Numerous tracings had been taken and at one time and another many different types of rhythm had been demonstrated and also varying degrees of heart block. The heart mechanism had been shown to be frequently varying. Frequently the nature of the electrographic curve had changed during the switch over from one of the leads to another and even distinct alterations of rhythm had taken place during the five seconds or so while one lead had been taken. Sometimes complete dissociation between the auricle and ventricle was found, at other times varying degrees of heart block and still again there were varying period of 1 : 1 auricular flutter and of auricular paroxysmal tachycardia.

In some of these periods of paroxysmal tachycardia the auricular impulse took origin near the normal pacemaker, in others there was a shift towards the auriculo-ventricular node and in others again a condition of nodal tachycardia was seen to be present.

Dermatitis Artefacta.

DR. J. H. KELLY detailed the history of a patient, a girl, aged thirteen, who had been brought to the hospital two months previously with the story that she had swallowed a penny. X ray examination had failed to disclose any coin in the alimentary tract. Later the child had developed sores on the legs which were superficial rectangular abraded patches coated with a little thin pus mingled into black specks. These had failed to heal with ordinary treatment for several weeks and the patient had been referred to the Dermatological Department. The lesions were sharply circumscribed. The condition was recognized as *dérmatitis artefacta*. The mother insisted that the black specks were due to the metal of the coin "coming out," but inspection demonstrated a strong resemblance to boot polish and some of this material was caked under the patient's finger nails. The child's playmate was attending the hospital with sores on the legs and this fact had probably provided the suggestion.

Correspondence.

CÆSAREAN SECTION.

SIR: It is well known that for many years I have been strongly opposed to the wave of Cæsarean section that has swept throughout Victoria. I have frequently pointed out that in this country where rickets is almost unknown, that there are very few deformities of the pelvis requiring Cæsarean section for terminating pregnancy. At the Congress in New Zealand Cæsarean section was one of the important subjects discussed. It was unanimously agreed that the operation was being done so frequently where there were no indications supporting the necessity of operation.

I have now before me a case that clinches my argument that Cæsarean section is so often unnecessarily performed in the country. A woman immigrant, aged forty-two, arrived from Dublin some years ago. She was attended in Dublin by an ex-master of the Rotunda Hospital. She had a slightly contracted pelvis. He induced labour at the eighth month on seven different occasions producing seven living healthy children.

She left Ireland six years ago with her husband and came to Victoria, "the land of the Cæsars." Being pregnant, she visited a Melbourne obstetrician who advised her to go to full term and have performed a Cæsarean section. This was done at the Women's Hospital.

Since then my colleague at Saint Vincent's Hospital some two years ago had to perform an extensive operation for abdominal adhesions resulting from the Cæsarean section. She appeared again in my clinic for another operation and so mutilated and bound down were the

genital organs that I had to clean the pelvis out entirely of all those derelict organs. This case is one that I have been waiting for for some time to prove that there is little danger in inducing labour at the eighth month, provided the passage is not too exacting for the egress of the passenger. It is so common to hear midwives say that a seven month fœtus has a better chance of living than an eight month fœtus. Of course, where there is contraction of the pelvic outlet there will be less obstruction with a seven than with an eight month fœtus. Does it not resolve itself into a question of careful diagnostic estimate as to whether the eight month fœtus will have little obstruction in passing through? This was a case that had under expert obstetric conditions produced seven living children by the simple means of inducing labour at the eighth month. Why should obstetric surgeons in Victoria discard all that perfect history of results and resort to absolutely unnecessary Cæsarean section, the subsequent results being a grave menace to the poor woman's health and even life.

Yours, etc.,

A. NORMAN MCARTHUR,
M.B., B.S., M.R.C.S., L.R.C.P., F.A.C.S., F.C.S.A.,
Senior Gynæcological Surgeon to Inpatients, Saint Vincent's Hospital, Melbourne.
52 Collins Street, Melbourne.
October 20, 1927.

THE COLLEGE OF SURGEONS OF AUSTRALASIA.

SIR: In THE MEDICAL JOURNAL OF AUSTRALIA of October 15, 1927, is a report of the meeting of the Council of the College of Surgeons of Australasia held in Sydney, September 28 and 29, at which, in the words of the report, "the President, Sir George Syme, occupied the chair and Dr. H. S. Newland, Dr. Ralph Worrall, Mr. H. B. Devine and Dr. A. L. Kenny, Honorary Secretary, were present."

On page 558 it is reported that "It was resolved that the following recommendations be sent to the advisory committees of the several universities for higher degrees in surgery.

"That the examination for the higher degrees in surgery be in two parts.

"Part 1. Anatomy and Physiology.

"Part 2. Surgery and Surgical Pathology.

"Candidates may not present themselves in Part 1 unless they have graduated."

The recommendation means that the ideal to be aimed at is a test something like the examinations for the Fellowship of the English Royal College of Surgeons.

And it means that the University of Sydney should lower its requirements to that level. It is to be invited to revise its conception of surgery and to consider it merely as a craft; perhaps I could also say, as a mere craft.

Up to the present time, the University of Sydney has aimed at the encouragement of original thought, independence of mind, scientific imagination, love of research. The aspirant must show these qualities in some measure and must show good work actually accomplished. He must show some vision beyond the small and miserably cramped outlook of the examination specialist.

I am sure the governing body of the University of Sydney will hesitate to take the very bad advice offered to it by the five gentlemen constituting the meeting which passed that resolution.

I believe the University of Sydney will do more to promote the advance of surgery by following its present ideal. Indeed, I feel sure it will refuse to reduce its present standard to a level that requires, more than anything else, a facile memory and the stuffing of the mind for a time with (1) a multitude of facts, some really important, others important only for examination purposes and (2) a multitude of other people's opinions, some valuable, others certainly of no value whatever, including here many of the opinions taught as facts by our sausage-machine teachers. And all this stuff is to be acquired with the aid of a professional crammer and tipster, as is done in London today and has been done in London ever since the system started. The candidate must kill or suppress the critical faculty. All facts are equally valuable, all opinions equally worth while, if they give equal chances in an examination. The value has to be judged in its relation to the chance of passing and if it has no value in that respect it is useless. And nothing is to be discarded as junk, even if it is junk, when it has an examination value.

The examination may be made very difficult. But its value bears no relation whatever to its difficulty.

The product of this system, in his way, may be a very clever man. But he has had no encouragement to employ the higher faculties of the human mind, and that part of him has not been tested. That part of him does not pay. What the system wants is a mind with a suitably constructed valve, so that it can be readily inflated with a pump.

The successful candidate may be mentally sterile, narrow, tradition-ridden, complacent and incurious. He has, moreover, found that it pays to be so. He may become a very successful practitioner and a skilful operator and be an honourable and likable man. He may even reach the official top and be very ornamental there, too. But though these men owe much to surgery, surgery will owe nothing to them. And they are very completely dead when they die.

This narrow system is, indeed, one of the reasons why Lister, the tradition-breaker, the founder of modern surgery and the greatest surgeon of all time, found the Fellows of the College of Surgeons unresponsive or hostile, while abroad his teaching was followed by men of more open mind.

When the College of Surgeons began to function, surgery was a craft and hardly more. These corporations hang on to their traditions. They can carry their own fetters. But let them stay where they belong.

Whatever it may have been once, surgery is now an integral part of scientific medicine and surgeons ought to be physicians—and physicians first. What thoughtful man will deny it? Indeed, there is much to be said in favour of regarding surgery as a subject properly within the academic scope of the Doctorate of Medicine, as was the case in the University of Sydney till quite recently—and may be again.

However, I have shocked people. I have been told that I am a radical, a heretic, a revolutionist. Why not reverentially accept and be still? Enter the machine.

Well, I want to see things better than they are, and I am not alone. If anybody is interested, let him read Sir William Osler's address on "Examinations, Examiners and Examinees" in *The Lancet* of October 11, 1913, page 1047, and correspondence thereon in *The Lancet* of October 18, page 1155, and of November 1, pages 1287 and 1288. On page 1287 let him also read the scathing letter of "F.R.C.S." on the Royal College of Surgeons examination in anatomy and other things.

It will, in my opinion, be a calamity for the future of surgery in Australia and New Zealand if this withering blight be forced on it. I had hoped better things.

Yours, etc.,

C. E. CORLETTE.
175 Macquarie Street, Sydney.
October 19, 1927.

Proceedings of the Australian Medical Boards.

NEW SOUTH WALES.

THE undermentioned have been registered under the provisions of *The Medical Act* 1912 *and* 1915 as duly qualified medical practitioners:

Brown, Isobel May, M.B., 1927 (Univ. Sydney), Royal Prince Alfred Hospital.

Cable, Walter George Hughes, L.S.A. (Lond.), 1906; L.M.S.S.A. (Lond.), 1919, 6, Jeffrey Street, Canterbury.

Cameron, Donald Alastair, M.B., 1927 (Univ. Sydney), Royal Prince Alfred Hospital.

Clarkson, Cecily Mary Aroha Wise, M.B., Ch.B., 1925 (Univ. New Zealand), Harley, Macquarie Street, Sydney.

Eizenberg, Horace Joseph, M.B., 1927 (Univ. Sydney), 5, Wycombe Road, Neutral Bay.

Ginsberg, Maurice William, M.B., 1927 (Univ. Sydney), Sydney Hospital.

Guinane, James Vincent, M.B., 1927 (Univ. Sydney), Royal Prince Alfred Hospital.

Kelly, John Augustine, M.B., 1927 (Univ. Sydney), Royal Prince Alfred Hospital).

Kelly, Thomas Francis, L.R.C.P. (Edin.), 1924; L.R.C.S. (Edin.), 1924; L.R.F.P.S. (Glasg.), 1924, Koorawatha.

Knox, Robert Brodie, M.B., B.S., 1926 (Univ. Melbourne), Junee.

Row, Allan Warren Linford, B.M., B.Ch., 1925 (Univ. Oxford); M.R.C.S. (Eng.), 1926, c.o. Mr. Robson, Church of England Grammar School, North Sydney.

Thompson, George Alexander, M.B., 1927 (Univ. Sydney), Sydney Hospital.

Walker-Taylor, Philip Neville, M.B., 1927 (Univ. Sydney), The Rectory, Orange.

Windeyer, Brian Wellingham, M.B., 1927 (Univ. Sydney), Royal Prince Alfred Hospital.

For additional registration.

Tarlinton, Kevin Faulkner, Ch.M., 1927 (Univ. Sydney).

Change of name.

Castleden, Elsie Marion to *Tarleton*, Elsie Marion, 35, Moseley Street, Strathfield.

TASMANIA.

THE undermentioned has been registered under the provisions of *The Medical Act*, 1918 of Tasmania, as a duly qualified medical practitioner:

Blewett, John Earlston, M.B., B.S., 1924 (Univ. Melbourne), Latrobe.

Diary for the Month.

Nov. 8.—Tasmanian Branch, B.M.A.: Branch.
Nov. 8.—New South Wales Branch, B.M.A.: Ethics Committee.
Nov. 9.—Victorian Branch, B.M.A.: Branch, last date of nominations for Council.
Nov. 9.—Central Northern Medical Association, New South Wales.
Nov. 10.—Victorian Branch, B.M.A.: Council.
Nov. 10.—South Australian Branch, B.M.A.: Council.
Nov. 10.—New South Wales Branch, B.M.A.: Clinical Meeting.
Nov. 11.—Queensland Branch, B.M.A.: Council.
Nov. 15.—Tasmanian Branch, B.M.A.: Council.
Nov. 15.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
Nov. 16.—Western Australian Branch, B.M.A.: Branch.
Nov. 16.—Section of Obstetrics and Gynæcology, New South Wales Branch, B.M.A.
Nov. 17.—Section of Neurology and Psychiatry, New South Wales Branch, B.M.A.
Nov. 21.—New South Wales Branch, B.M.A.: Organization and Science Committee.
Nov. 22.—New South Wales Branch, B.M.A.: Medical Politics Committee.

Medical Appointments Vacant, etc.

FOR announcements of medical appointments vacant, assistants, *locum tenentes* sought, etc., see "Advertiser," page xvi.

COMMONWEALTH OF AUSTRALIA: Assistant Medical Officer, Nauru.

THE NATIONAL ASSOCIATION FOR THE PREVENTION AND CURE OF CONSUMPTION: Honorary Medical Officer.

IE PUBLIC SERVICE BOARD, NEW SOUTH WALES: Medical Officer (Male).

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney.	Australian Natives' Association. Ashfield and District Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester United Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phœnix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association. Hospital or other appointments outside Victoria.
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane.	Members accepting appointments as medical officers of country hospitals in Queensland are advised to submit a copy of their agreement to the Council before signing. Brisbane United Friendly Society Institute. Stannary Hills Hospital.
SOUTH AUSTRALIAN: Secretary, 207, North Terrace, Adelaide.	All Contract Practice Appointments in South Australia. Booleroo Centre Medical Club.
WESTERN AUSTRALIAN: Honorary Secretary, 65, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington.	Friendly Society Lodges, Wellington, New Zealand.

Medical practitioners are requested not to apply for appointments to positions at the Hobart General Hospital, Tasmania, without first having communicated with the Editor of THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, New South Wales.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to "The Editor," THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, Sydney. (Telephones: MW 2651-2.)

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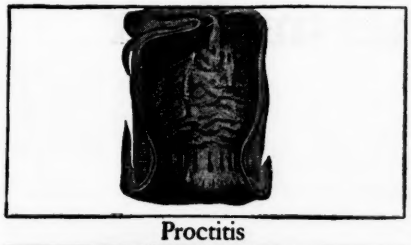
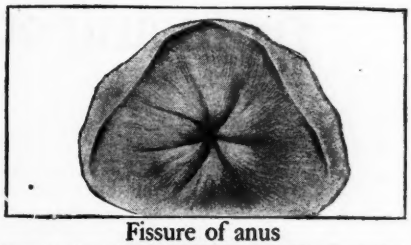
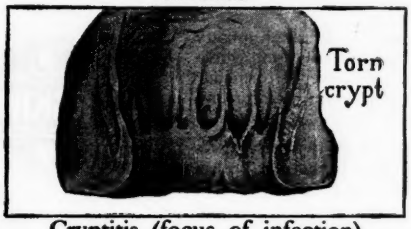


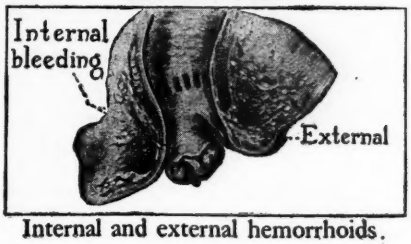
Proctitis



Fissure of anus



Cryptitis (focus of infection)



Internal and external hemorrhoids.

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